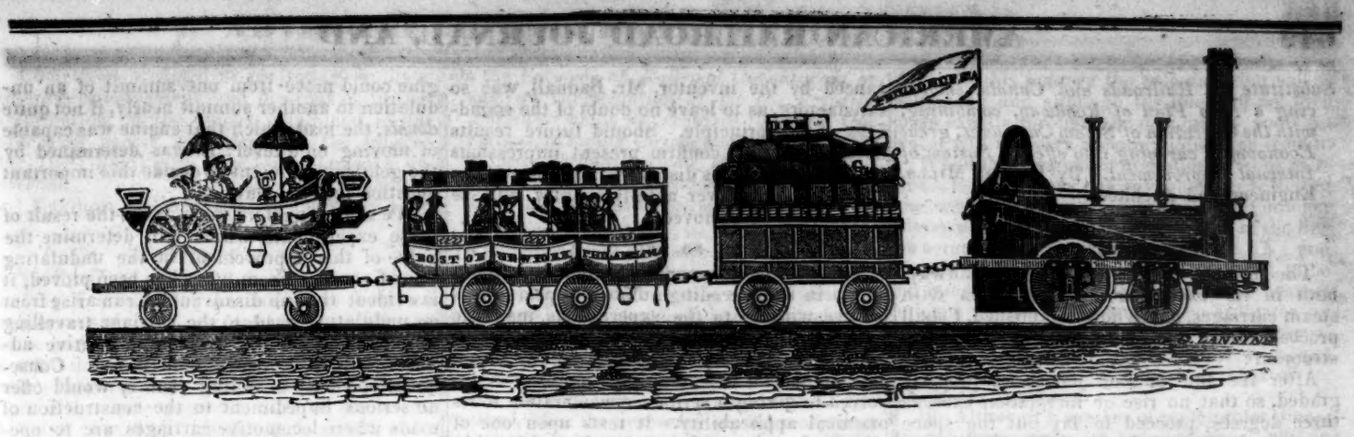

AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, OCTOBER 18, 1834.

We would invite the attention of our readers in general, and the inhabitants of that section of country referred to in particular, to the able arguments contained in the letter of J. McADAM, JR., which is unavoidably placed on our eighth page.

"The Society of Civil Engineers has obtained from the Crown a charter of incorporation,"

We have inserted the above notice, taken from the last number of the London Mechanics' Magazine, with the intention of devoting the editorial column of this week's paper to a consideration of the importance of a like institution to the cause of internal improvements in our own country.

In a conversation which the editor of this paper had some time since with one of our most scientific engineers, the question was asked, "Why is it that while the character and merit of the different works of Rennie, Telford, Stephenson, Vignoles, and other English engineers, are familiar to most of us here, nothing scarcely is known to them of works in this country, that would not suffer by a comparison with the best of those abroad?" He replied "We want a 'Society of Engineers,' with a suitable periodical to publish their proceedings; and until something of the kind is formed, we shall continue to labor under this disadvantage, that while the members of it have given ample evidence that there is an equal amount of talent and information in the profession here, but little credence will be given to the fact beyond the limited sphere of the directors and company of the work constructed." For the truth of our friend's remark, we can appeal with an honest pride to such works as the inclined planes of the Morris and the aqueducts of the Erie canals. The tunnels, planes, and viaducts of the Allegany Portage, and Baltimore and Ohio railroads, the hydraulic constructions of the Delaware and Raritan, and Delaware and Chesapeake canals, and the thousand other different works to be found on the numerous canals and railroads of our country. We have breakwaters, artificial harbors, aqueducts and reports on aqueducts, bridges, light-houses, dry docks, and wet docks; and, in fact, artificial constructions of every kind, inferior in boldness of conception or skill of execution to but very few of the boasted works of the English or French engineers. If in a densely settled country like England, with every facility of visiting and becoming acquainted with each other's works, it has been found necessary for the preservation of the dignity of the profession, and for the dissemination of mutual experience, to form themselves into an incorporated society, how much the more does it become necessary for the profession here, to adopt some similar measure. From the comparative paucity of their numbers, they are scattered over an immense section of country, and though, oftentimes two, three, or more works, may from their proximity be under the charge of one person, still from the progress of internal improvement in this country, the profession, from its inadequacy to supply the companies that are daily forming with suitable persons to construct their works, will be daily liable to abuse. Some terprising carpenter or mason of the neighborhood, becoming possessed of a level and compass, styles himself an engineer, and is forthwith, for want of a better, employed by them as such. That some of our most distinguished engineers have commenced in a like manner, no one is more fully aware than ourselves, yet while, from sound judgment and great ability, they have been enabled to elevate themselves to the highest standing, we are constrained to regard them only as glorious exceptions to the general rule. If the remark is not applicable as a general rule to those who thus commence, why is it, we would ask, that, young as our country is, we already have to lament over so many abortive experiments?

If such an institution as a "Society of Civil Engineers" existed among us, our companies would, as a matter of course, look to its members as the proper persons to which to entrust the charge of their several works. Those entering the profession would naturally connect themselves with some one engineer whose reputation for ability would thus become publicly known, and under whom they could attain that information and experience which would in turn enable them to supply the places that must one day become vacant. That an efficient remedy for the evils we previously stated would be found in such an institution, we firmly believe, and in that belief would cheerfully open our columns for communications on the subject; and as an ardent advocate of the cause of internal improvement, we pledge ourselves that no exertion shall be wanting on our part, that might conduce to carry into effect a measure in which we think the best interests of that cause are so deeply concerned.

CANAL OF BURGUNDY.—The line of internal navigation, which this magnificent undertaking has at last completed, extends from Havre de Grace to Marseilles, and is of the length of 300 leagues and upwards. It was commenced by the states of Burgundy in the year 1775, continued during the imperial sway of Bonaparte, and resumed in the year 1822. The whole sum expended upon it, from first to last, amounted to 40,000,000 francs, (£1,000,000.) Its actual length from St. Jean de Losne to the village of La Roche, where it meets the Yonne, is 242,572 metres, or 795,830 feet. It is provided with 189 sluices.

A CANAL UNITING THE RHINE WITH THE RHONE, and 246,000 metres (or 807,085 feet) in length, has likewise been opened; it begins at St. Symphorien, where it joins the Saone, and passes into the Rhine at a village called Kilstett, near Strasburg. It has also a branch leading from Mulhausen to Basle. The expense of constructing this canal was much less than that of the canal of Burgundy, as there were fewer difficulties to overcome in forming it.—[English paper.]

Substitute for Railroads and Canals, embracing a New Plan of Roadway, combining, with the Operation of Steam Carriages, great Economy in carrying into effect a System of Internal Improvement. By ROBERT MILLS, Engineer and Architect.

[Continued from page 626.]

NO. XIV.

The economy of the new plan of roadway, both in its execution and operation with steam carriages, being now established, I shall proceed briefly to describe its mode of construction:

After the line of road has been properly graded, so that no rise or inclination exceeds three degrees, proceed to lay out the space into wheel tracks (two or more, according to circumstances,) of the usual carriage width between the wheels, and form these tracks into paved ways of suitable breadth, and of a shape particularly adapted to the safe travel of the wheels, to prevent their leaving the track, except at the will of the steersman.

Where locomotive carriages only are to travel the road, it will not be necessary to pave between the tracks, by which much expense will be avoided.

These track ways may be paved either with metal stone upon the McAdamized plan, or with the quarry stone, fairfa e upwards, (as the streets in the new part of Baltimore are paved,) or with flag stones laid upon a gravel bed, or with solid blocks of granite, or any hard stone. The cross sections of these paved tracks to present a *concave* surface, so that the wheels running over them should have no tendency to fly the track.

Upon the most perfect plan of construction, these paved tracks would be little inferior to railways upon the level, and much superior where an *ascent* is to be gained, as the *bite* of the wheel upon the *stoneways* is sufficient to enable a steam carriage to ascend a hill rising six hundred feet in the mile, when on a railway the same carriage would scarcely be able to carry *itself* up an inclination rising two hundred feet in the mile. This is an important consideration, where the motive power is to be steam; as the same power which would propel the locomotive carriage with its load on a horizontal road fifteen to twenty miles an hour, would enable it to ascend a hill rising three hundred feet in the mile, at a speed of five miles an hour, without difficulty.

The vast expense, therefore, of making a railroad over a hilly country, may, by the proposed plan, be avoided; and thus a serious obstacle in effecting an important improvement, be removed.

NO. XV.

The new roadway proposed will be found to embrace many advantages, in a public point of view, which a railway cannot possess. The steam carriage, after running to the end of this road, for instance, in entering a city, would be able to traverse any of its streets and communicate with every part of it: this advantage the railroad locomotive cannot realize, from the particular construction of the wheels. Again, this new roadway, from the tracks being spaced to correspond with the division of common carriage wheels, other vehicles besides those that are locomotive may travel it, and thus the public convenience be accommodated at the same time that the proprietors of the road would receive the full benefit of their improvement. This description of road, from this circumstance, would certainly be more popular than a railway, as it would possess the advantage of canals in giving to every one an opportunity of using it.

Again, from a series of experiments made in England, on a part of the Liverpool and Manchester railway, to determine upon the practicability of impelling *carriages* upon a railway, by means of a power derived from the inequalities or undulations of the line, it appears that the correctness of the theory advanced by the inventor, Mr. Badnall, was so satisfactory, as to leave no doubt of the soundness of the principle. Should future results from experiment confirm present impressions on the value of this discovery, the obstacles to making a road over a hilly country will be almost entirely removed.

NO. XVI.

The *undulating roadway*, which was referred to in the preceding number, appears (says an eye-witness to the experiments made) to have something extremely feasible in the plan; and being one which can be tested by actual experiment, no extraordinary credulity is involved in giving a serious consideration to its practical applicability. It rests upon one of the simplest laws of nature, which is within the daily experience of almost every individual. We all know that a wheeled vehicle, or any other body, moving freely down a declivity, accumulates a degree of velocity within itself, which will propel it a certain distance after it has ceased to be acted upon by the descent of the road. This momentum will be the greater weight of the body, which is all in favor of the object to which the inventor proposes to apply it. In order to discover how far the impetus acquired in falling down one slope of an undulating road would be availing in impelling a train of carriages over the next, the experiment is very simple; a certain degree of velocity being given to a load at the foot of an ascent, sufficient to carry it to the summit, we have only to ascertain whether an equal degree of velocity could be given to the load by its own passage down a plane of the same inclination. For this purpose it is only necessary to allow the load to traverse the plane in a reverse direction, and ascertain the velocity with which it again passes the foot of the ascent.

The following experiments, to test the principle, were made in the presence of Mr. R. Stephenson, Senior, Messrs. Dixons, Daglish and Badnall, Engineers.

Experiment 1.—The Liver engine and a load of thirteen wagons, weighing in all about seventy-two and a half tons, after traversing a distance of three-fourths of a mile, to acquire a sufficient velocity, ran up the inclined plane two hundred and seventy-eight yards: the time occupied in performing the latter distance being ninety seconds.

Experiment 2.—The power being reversed, the engine and train *descended* two hundred and seventy-eight yards: the time occupied in the descent, viz. from a state of rest to the point from which the time of ascent had been calculated, being only fifty seconds. The 3d, 4th, 5th, and 6th experiments differed but a few seconds from the above, and the average was as follows:

Total space passed over to generate the velocity, one thousand three hundred and twenty feet.

Time occupied in ascending two hundred and seventy-eight yards, eighty-one and two-thirds seconds.

Total space passed over in generating the velocity on inclined plane, two hundred and seventy-eight yards.

Time occupied in descending two hundred and seventy-eight yards, forty-six and one-sixth seconds.

It is almost needless to add, that these experiments have most fully confirmed the undulating principle, and proved beyond all doubt that a locomotive engine and load can traverse a curve or undulation, whose two summits are of equal altitude, with much greater rapidity, and consequently with far greater economy of time and power, than a level road of proportional length.

NO. XVII.

It being the opinion of Mr. Badnall, that if a velocity of twenty miles an hour were attained at the foot of the plane by two engines, it would be proved by experiment that an engine could move from one summit of an undulation to another summit nearly, if not quite *double*, the load which that engine was capable of moving on a level: it was determined by the gentlemen present to decide this important question in a few days.

We shall, therefore, soon learn the result of these experiments, which will determine the value of this improvement in the undulating line of roads. From what has been proved, it is evident that no disadvantage can arise from an undulating road, to the carriage travelling thereon; but on the contrary, a positive advantage both in speed and power. Consequently, a hilly or rolling country would offer no serious impediment to the construction of roads where locomotive carriages are to operate; and we may judge what an expense would be saved, by avoiding the cutting down of hills to form a level road. This invention, therefore, if future trials should substantiate the truth of the principle applied in practice, will add much to the economy of constructing the proposed plan of road, and increase the effect of the steam carriages working on the same.

NO. XVIII.

Having thus briefly exhibited the advantages of the new plan of road proposed, especially on the ground of economy, little more, in a general way, remains to be said further, than to urge upon all those who are projecting and carrying into execution plans of internal improvement, the expediency of adopting this new system of roadway, as promising to secure a more profitable return of interest on the capital laid out, than can be realized from any other plan either of railway or canal. In a level country there would exist a considerable disparity in the cost of the two systems of improvement.

The average expense of laying a double line of tracks on a railroad, independent of grading, is $11,628 per mile; the cost of a thorough double paved way upon the plan proposed, exclusive of grading, is $4,000 per mile; and if the wheel tracks are only paved, $2,500 per mile. Difference in the case of a thorough pavement, $7,628 per mile. Difference in the case of the wheel tracks only paved, $9,128 per mile. So that in a road one hundred miles long, there would be a saving, in the best plan of trackway, of $662,500; and on the cheapest plan, of $912,800.

Should we take into calculation the expense of *grading*, upon the two plans, there will appear another large difference in favor of the proposed plan, where a hilly country has to be passed: this has been already shown in the instance of the railroad projected between this city and Baltimore; and I would again call the attention of the proprietors of this road, to the immense saving they would realize by adopting the substitute proposed, not only in the cost of the road, but in the motive power used, or rather in the rate of transportation to be charged, as a passenger could be conveyed from city to city on the new plan of road and with equal speed for only one dollar, and yield the company a better interest than the charge of two dollars and a half on a railroad, which large sum it is necessary to demand, to meet the heavy interest accruing on the capital embarked or to be laid out on the work.

In the great project which the writer had the honor to submit to the late Post-Master General, (Judge McLean,) some years ago, to construct a railroad from Washington to New-Orleans, passing through all the seats of Government of the sea-board States, with what economy this important work might be executed upon the plan proposed. Passing chiefly through an alluvial country, little grading would be required, therefore assuming the distance between the two points to be one thousand two hundred and fifty miles, a paved way upon the plan proposed may be estimated to cost about six millions of dollars.

Companies engaged in projecting works of internal improvement, and desirous of further information on the subject contained in the preceding papers, by addressing the subscriber, (post paid) will have their inquiries answered.

ROBERT MILLS,
Engineer and Architect, Washington City.

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SUMMARY OF FACTS.

1. Carriages, propelled by steam have averaged a speed of ten miles per hour, on *common roads;* and on good roads, with the same power, they have been propelled at the rate of thirty miles per hour, for four hours and a half together, with nineteen passengers.

2. They have ascended hills of considerable rise, (1 in 6,) at sixteen and a half miles per hour, loaded with people; they experienced no difficulty in travelling over even the worst and most hilly roads; and further, they were capable of overcoming any ascent which carriages drawn by horses could accomplish, and with much more facility and safety.

3. The saving of expense to travellers, by the substitution of steam for that of horse power, is from *one-half* to *one-thirds*, even on *common roads;* and upon a *good road*, adapted for the operation of these carriages, the expenses of transportation would be reduced to *half* this amount, probably *one-fifth* or *one-sixth* that of horse power.

4. They are perfectly safe for passengers; less liable to accident than where horses are used; more manageable in the higher velocities; and their speed capable of being checked at pleasure, in a very few moments.

5. Steam carriages will be found *superior*, working on good stone roads, to the operation of the same power or railroads—1st, From their capacity to ascend and descend hills, perfectly inaccessible on railroads—2d, From the greater speed which may be given them with safety, and the ease with which they may be checked when requisite, or when encountering an obstacle—3d, From their being able to travel in any direction, making short turns, or the entire sweep of the circle, in a small compass; which advantages will enable them to carry their passengers to any point in a city, which the locomotive carriage on a railroad could not effect without laying a track for this purpose.

6. By the use of steam carriages on good stone roads, a vast saving of expense to the country would result, as the difference of cost between such stone roads and railroads or canals, would be at least two-thirds; so that, if 60 miles of railway or canal cost $1,200,000, a good stone road would cost but $400,000.

7. By the use of steam carriages, the expense of repairs of the road will be much reduced, as it has been proved that *horses* do the *chief damage* to roads; the carriage wheels but little.

8. The general introduction of steam carriages on these roads will have the effect of *removing horse power*, "a most unproductive laborer," says Mr. Gurney, "and a dead expense to the country." The advantage to the nation will therefore be in a direct proportion to the substitution of steam for horse power.

The consumption of a horse is equal to what will support eight persons; so that by every horse removed, and supplied by elementary power, the maintenance of eight individuals is provided for. In times of scarcity, this advantage would be sensibly felt in the country, and more especially in the manufacturing districts.

NEW ORLEANS, SEPT. 19—*Comical Accident.*—Yesterday the Locomotive Creole of the Railroad, being ready to start for the city, with several cars attached, having been left by the engineer for a few moments, started backwards with full steam, and safely deposited itself and the cars in twelve feet water at the end of the wharf.

On the Location of Railroad Curvatures; being an Investigation of all the Principal Formulas which are required for Field Operations, in laying Curves and Tangent Lines, to pass through Given Points. By J. S. VAN DE GRAAFF. Continued from page 628. [For the American Railroad Journal.]

It frequently happens, in tracing curves for the superstructure of a railroad upon a graded surface, that AX will represent a *fixed* tangent, and that the point A′ will represent a station in a curve which is also *fixed*, and to which A′X′ is a tangent at that point; and it is then required to pass that curve into the curve AA′ at the station A′ and upon the *common* tangent A′X′. In such a case it will always be the best method, after the necessary modulus of curvature has been computed by means of (XVII), to trace the curve from A′ towards the other origin at A. For then the two curves will meet at A′ with an integer chain; and the broken chain will come in more conveniently, at the other extremity of the curve, where it meets the given tangent line AX.

The formulas (XVII.) and (XVIII.) will also, in some cases, be highly useful in conducting the location of a line with facility. Suppose, for example, that AX be a given tangent line, whose direction is fixed by some former curve, and particular local circumstances; and let the line A′X′ represent the direction of some bluff, or other obstacle, which makes it desirable for that part of the contemplated road to occupy ground which will correspond with the line A′X′, or differ from it as little as circumstances will permit. In this case, then, having selected any convenient point K, in the given tangent line AX, for the origin of co-ordinate axes, let the system of rectangular lines

$$\left.\begin{array}{l} X = a + b + c + \text{&c.} \\ Y = d + e + f + \text{&c.} \end{array}\right\},$$

be traced from that origin, and terminating in such a point A′ as the nature of the ground *and the levels* may require. Then placing the instrument at A′, deflect into the proper direction A′X′, and thus measure the angle BA′X′. Having then all the requisite data for computing the origin A, and the necessary modulus of curvature, to pass a curve through the point A′ and into the direction A′X′, let those items be calculated. It will then be seen, at once, whether the point A′, and the direction A′X′, can both be maintained within the limits of the desired expense and curvatures; and if not, then either some other point A′ must be taken, or some new direction must be assumed. These facts should be always ascertained, and the most judicious line definitely selected, *before any curve is actually traced.* It is, however, necessary to observe here, that, in the location of a line preparatory to the graduation, it will be very seldom proper to trace a curve backward from any selected point A′ to meet the line upon a given tangent AX, as was recommended in the case of a graded surface. For in the first location, integer chains should be always retained when practicable; and which cannot be easily done without tracing the curves and tangent lines continuously. In the case, then, last considered, the following principles should be observed: After the point A′ and the direction A′X′ have been finally selected, and the requisite origin A, together with the modulus of curvature for the required curve, have been already calculated, if that origin does not fall upon the tangent line AX at an integer chain, then select the nearest integer chain for the true origin; and compute a *new modulus of curvature*, which will pass a curve from that latter origin through the designated point A′. It is then very evident that the direction of this curve, in passing the point A′, will differ but little from the direction of the former curve at the same point. When therefore the curve, as last selected, has been laid within one or two chains of the designated point A′, let such a variation be made in the modulus of curvature, for the remaining chain or two, as will restore the *parallelism* of the two tangents, agreeably to principles which will be obvious enough from (V.) In this manner the true direction will be obtained; and although the line will not then pass exactly through the designated point A′, yet it will not vary a material distance from it.

When this system of operation is to be pursued, it will always be convenient, in selecting the arbitrary point K, to take it at an integer chain, counting from the termination of the line as actually laid into the given tangent AX; and then if $\propto$ does not appear from (XVIII.) to be an integer number of chains, select the nearest integer number to it, and the co-ordinates by which to compute the *new modulus of curvature*, from (XII.) will evidently be $X \pm \propto$, and Y, regard being had to the proper sign of $\propto$, as already explained.

19. Although a system of rectangular lines, traced from given co-ordinate axes, will in general furnish the best data for computation, yet cases sometimes occur when those calculations have to be made from computed curves or curves already laid upon the ground. In a first location, this case will sometimes happen, when, from difficulties which are found in advance of a line, it becomes necessary to change a part of that which was either already computed, or actually laid. Such a case will sometimes occur even when the operations in the field have been skillfully conducted; and in laying curves upon a surface already graded, it will be frequently necessary to compute from curves actually traced; for in that case it will be often required to notice the particular situations of several stations in a curve or tangent line, and which cannot be so readily done in any other manner as by actually laying an approximate line upon the ground. The *notes* of those approximate lines are, moreover, in such cases, *always furnished* from a former survey.

20. Suppose two curves to be laid upon the same tangent line, and let $\propto$ denote the distance between their origins. Let one of those curves have a given modulus of curvature denoted by T, and let it pass through a certain given point at the extremity of the *n*th chain. It is then proposed to find the modulus of curvature of the other curve, such that it may also pass through the same given point; and it is likewise required to determine the angle of intersection of the two curves at that point.

The co-ordinates of the given point, taken with reference to the origin of the required curve, are obviously, $x \pm \propto$ and y; and consequently, taking T′ to denote the required modulus of curvature, its value will be expressed by

$$\text{Sin. } T' = \frac{y}{x^2 + y^2 \pm 2 \propto x + \propto^2},$$

as appears from (XII.) Hence, substituting in this expression, for x and y, their values* as obtained by (VII.), the following theorem will be the obvious result:

$$\text{Sin. } T' = \frac{1 - \text{Cos. } 2nT}{\frac{1 \text{ Cos. } 2nT}{\text{Sin. } T} \pm 2 \propto . \text{Sin. } 2nT + 2 \propto^2 . \text{Sin. } T} \qquad \text{(XIX.)}$$

The formula thus obtained will be found to be quite convenient for purposes in the field, when the curves are too long to be within the limits of the more simple approximating methods, which will be hereafter explained.

With regard to the double sign, it must be observed that the *negative value of* $\propto$ obtains when the origin of the curve sought is in *advance* of the origin of the given curve, with respect to the direction in which the curves are laid from their origins; and the *positive* value must be taken in the contrary case.

In order to determine the angle of intersec-

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* *Note.*—By squaring each of the two formulas given by (VII.), and adding the two squares together, the following expression will result after a little reduction:

$$x^2 + y^2 = \frac{1 - \text{Cos. } 2nT}{2 \text{ Sin. }^2 T}$$

This is, however, not the form which a formula should have for computing the numerical value of $x^2 + y^2$; but it is useful in reducing other formulas.

tion of the two curves, take D′ to denote the number of degrees and minutes contained in the curve whose modulus of curvature is T′, between its origin and the given point, and which will, consequently, by (I.) and (IV.) also express the inclination of the required curve, at that point, to the *common tangent* at the origins. The value of D′ will then be expressed by

$$\text{Cot. } \tfrac{1}{2}D = \frac{x \pm \propto}{y},$$

as appears from (XIII.) Now, substituting in this expression for x and y, their values as given by (VII.), the following formula will be the result:

$$\text{Cot. } \tfrac{1}{2}D' = \text{Cot. } nT \pm 2\propto \cdot \frac{\text{Sin. } T}{1 - \text{Cos. } 2nT}. \quad \text{(XX.)}$$

The value of D′ being thus obtained, the required angle of intersection will be expressed by $2nT - D'$; as evidently appears from (V.)

Example 1. Let the modulus of curvature of the given curve be 30′, and let the given point be at the extremity of the 60th chain. Supposing the origin of the other curve to be placed 10 chains *back* upon the tangent line, what will be the new modulus of curvature, and what will be the angle of intersection at the given point?

In this case,

$$\text{Sin. } T' = \frac{.50000}{\frac{.50000}{.00873} + 20 \times .86603 + 200 \times .00873}$$

$$= \frac{.50000}{57.299 + 17.321 + 1.746} = \frac{.50000}{76.366} = .00655;$$

and consequently, $T' = 0° 22\frac{1}{2}'$ = required modulus of curvature. And, Cot. $\frac{1}{2}D' = 1.73205 + 20 \times \frac{.00873}{.50000} = 1.73205 + 20 \times .01746 = 1.73205 + .34920 = 2.08125$; and therefore, $\frac{1}{2}D' = 25° 40'$; or, $D' = 51° 20'$. Hence, $2nT - D' = 60° - 51° 20' = 8° 40'$ =, the angle of intersection required.

Example 2. Let the modulus of curvature of the given curve be 2°, and let the given point be at the extremity of the 31st chain. Supposing the new curve to be commenced one chain in *advance* upon the tangent line, what will be the required modulus of curvature, and what will be the angle of intersection at the given point?

Here, $T = 2°$, and $n = 31$; and consequently $2nT = 124°$. Hence, in this Case, cos. $2nT$ becomes *negative*, while Sin. $2nT$ remains positive, agreeably to the principles of trigonometry. Also, in the present example, $\propto = -1$. Under those considerations, the formula (XIX.) gives,

$$\text{Sin. } T' = \frac{1 + \text{Cos. } 56°}{\frac{1 + \text{Cos. } 56°}{\text{Sin. } 2°} - 2 \text{ Sin. } 56° + 2 \text{ Sin. } 2°}$$

$$= \frac{1.55919}{\frac{1.55919}{.03490} - 2 \times .82904 + 2 \times .03490} =$$

$$\frac{1.55919}{44.676 - 1.685 + .070} = \frac{1.55919}{42.788} = .03643;$$ or,

$T' = 2° 5\frac{1}{4}'$ = required modulus of curvature. In obtaining the value of the angle D′ by means of (XX.), the necessary sign of the trigonometrical quantities must in like manner be observed; and consequently, Cot. $\frac{1}{2}D' =$ Cot. $62° - 2 \times \frac{\text{Sin } 2°}{1 + \text{Cos. } 56°} = .53171 - 2 \times \frac{.03490}{1.55919} =$

$.53171 - 2 \times .02239 = .53171 - 04478 = .48693$; or $\frac{1}{2}D' = 64° 2'$; and, $D' = 128° 4'$. Hence, $D' - 2nT = 4° 4'$, the angle of intersection required.

In computing the modulus of curvature for a long curve, which is required to be laid with precision, it will not be sufficient to obtain a result only true to the nearest *full minute*. For in tracing a curve agreeably to the principles given in Art. 3, it is evident that multiples of the modulus of curvature are required in laying the different chains; and consequently, an error of $\frac{1}{4}'$ in the modulus of curvature would produce an error of 2′ in the angle of deflection, placing the 8th chain from the instrument. Now, in any common instrument, containing a good vernier scale, an angle of 2′ is quite perceptible. Indeed, if the chains be 100 feet each, an angle of 2′ will be subtended by a line nearly 6 inches long at a distance of 8 chains; and it follows, therefore, that an error of *one fourth part of a minute*, in the modulus of curvature, will, in such a case, produce an error of nearly 6 inches in the position of every 8th station from the instrument. And as the effects of this error will not continue to be only proportionably greater through the whole line, but will accumulate faster and faster, in a geometrical ratio, it is evident that an error of $\frac{1}{4}'$ in the modulus of curvature is an item of considerable consequence in laying long curves upon a graded surface.

On the Comparative Value and Importance of Mathematical Science, and on the Pretensions of its Professors. [From the London Mechanics' Magazine.]

[Continued from page 632.]

Let us take other views of mathematicians and practical men bending their faculties towards the attainment of the same object. The most valuable method of determining the longitude was at last accomplished through practical means, and by practical men. Euler aimed to produce an achromatic lens as well as Dolland, but it was the latter who succeeded; and their respective modes of proceeding mark both the character and comparative value of their efforts. As to the steam engine, science (other than the most common) cannot lay a particle of claim to it. It is the all-important gift to the world from practical men alone. One was a miner, another was a blacksmith, a third was a glazier, and a fourth a watchmaker. Science has not even now elucidated all its principles,—one important point is as obscure at the present day as ever it was. During the time this mighty engine was maturing, and having for its ultimate effect a political, a moral, and a social revolution throughout the whole earth, the mathematicians of the foreign academies, the Eulers, and the Bernouilles, even when engaged on physico-mathematical subjects, were exciting each other's ingenuity, and eliciting their mutual admiration, by very profound but very sterile inquiries into things selected purposely and merely for the opportunity they afforded for the most abstruse and difficult investigations. Such was that concerning the gyratory motion of a body fastened to an *extensible* thread, first in a horizontal plane, and then, for the sake of the choice piece of complication produced by the introduction of the force of gravity, in a vertical plane, but ending at last with a suspicion that all was wrong. Such was that on the formulæ for determining the motion of a thread perfectly flexible, ending in unmanageable equations. And such was that concerning tractory and compound tractory curves, formed by a weight in one case, and two or more weights in the other, being moved by a thread whose end travels along a line either straight or curved, ending also unsatisfactorily. *Your* Magazine, Mr. Editor, is also the theatre occasionally for the display and sharpening of the wits of certain geometrical correspondents. Such was the tendency of the problem lately proposed and solved—"To inscribe a quadrilateral in a given circle, having given each of the diagonals and area." Why should not these have their puzzles as well as the more profound analysts? They form good school boy exercises, and school-boys accordingly have sustained a conspicuous part on your stage. Some persons are particularly apt at such questions, and so are others at solving riddles. The different manner in which the proposal for an undulating in lieu of a level railway has been received by the *mere* mathematicians on the one hand, and by the body of civil engineers on the other, is also abundantly significant of the comparative rank and importance which the former hold in the scale of intellect and utility. Your correspondents, Kinclaven, Iver Maciver, and M. S., are mathematicians—geometricians, at any rate—and they have sided with Mr. Badnall. Be it so—the impress is of their own stamping, and the currency is their own issue.

The limits to which I am confined will permit me merely to allude, and only, to a few more instances of the unfitness of the mere mathematician for physical inquiries, and of the unsatisfactory applications of their science. At one time the animal economy was mathematically and mechanically explained. The treatises on physiology were filled with problems, long calculations, and algebraic formulæ. Lawrence says, "that one estimated the force of the heart as equal to 180,000 pounds; another reduced it to 8 oz.; and both these conclusions are deduced from reasonings clothed in all the imposing forms of the *exact* sciences."

Even the phenomena of the mind have been forced within the pale of mathematical disquisition. Hartley's elaborate hypothesis of the *vibratory* nature of thought and feeling would afford a choice and subtle theme for analysts of the French school, if only a few facts could be found to give it a coloring of truth, and a plausible pretence for the application of the calculus. We may then hope to find an expression for the velocity of our ideas, with the corrections due to variations in the temperature, moisture, and tension of the medullary fibre!

To come to our own times, there is Sir R. Phillips' theory *of all things*—ingenious enough, but that is all. Then there is Mr. Herepath's mathematico-chemical theory, accompanied with a challenge to the Royal Society, and preposterously backed with an offer to wager £1000 on the issue, in which the molecules of the gases are continually jostling each other and perpetually at loggerheads. The whole scheme is, however, mathematically and demonstrably true, especially if reasoning in a circle be only a circuitous way to truth.* Then there is the more measured movement of the ultimate particles of matter according to the theory of Mr. Emmet, by reason of the altered ratio of the forces which previously held them in equilibrium—the disturbing force being caloric. More recently there is the somewhat similar, but more elaborate and comprehen-

* This conspicuous herald of his own and Mr. Gurney's fame will surely be satisfied if his theory be as true as his assertion, that Mr. Gurney's steam-drag would transfer the same weight as it does on a common road, "*two hundred and sixty* or *two hundred and eighty* miles per hour on a railway, supposing mechanical laws followed, and that the materials and the resistance of the atmosphere would allow it." A slight mistake this—identical with Kinclaven's, of supposing the expenditure of power not to follow the ratio of the velocity as well as the resistance. This is another instance, by-the-by, on the part of both these persons, (for they are one only in error, I imagine,) of mathematical fitness and sagacity for physical inquiries.

sive, atomic theory of Mr. Exley, a work which I approach with the greatest respect, for the many profound, ingenious, and philosophic views with which it abounds; and for the very numerous explanations of phenomena which he adduces in accordance with his hypothesis, and which give it a much less speculative cast than the theories previously mentioned. The laws, however, which govern the immediate action of the atoms, if such there be, are probably not scrutable to our means or faculties; and it must be doubted whether our knowledge, even of the elements of matter, is sufficiently advanced to admit of such mathematical disquisitions: the attempt at present appears to be premature, though possibly it may be ultimately successful; and, in the mean time, the experimental researches of philosophers, with Mr. Faraday at their head, will be more useful, and teem with results of greater consequence. What an important though simple fact has lately been brought to light by this gentleman, and how much of a practical character there is about it, that the chemical action of platina in certain cases depends on its being perfectly *clean*,—a circumstance which your very profound thinker, with his algebraic formulæ, would run every chance of overlooking, because it is just on the surface of things. The sagacious practitioner having his attention alive to every incident, attaches no undue importance to what is recondite, or undervalues any thing because it has not the air of being scientific or *recherche*.

I have thus endeavored to mark the peculiar deficiencies for just reasoning and original investigation, to which the mere mathematician is liable from the biassing tendency of his studies, the natural bent of his mind, and the engrossing occupation of his time. I have illustrated this position with as many instances as my limits will allow, and I have incidentally shadowed forth the true and philosophic mode of conducting inquiries into the mixed and complex affairs which surround us on every hand. In pursuing this subject, there are one or two points on which I wish to guard against misapprehension. It is not intended, then, to impugn any of the methods adopted by the mathematicians in their own science, as purely considered, however they may have differed among themselves respecting them. Still less is it intended to impugn the modes of procedure adopted in the mixed mathematics, or to complain of what has been *fitly* done herein; but rather of what has not been so done—of premature applications of the science before the phenomena of nature have been sufficiently investigated to warrant an hypothesis—of inadequate applications, from a too great sacrifice of physical considerations in deference to the exactness of science—of partial applications being assumed to be complete, or, at any rate, to be of greater pretension and value than avowedly irregular but more comprehensive modes of considering the subject,—and of such applications being put forward in lieu of, and in preference to, tentative proceedings, even when the case points to and admits of their being adopted. Neither is it intended that those observations, or mere hints, rather, concerning the true and more ample mode of philosophising, should point to the analytic more than to the synthetic method, for they refer to both; and the reference is also as much to the secret mental process as to the published and formal procedures. The former is a curious subject, of which scarcely any thing can be known, and the little we can conjecture of it must arise from a knowledge of what passes in our own minds. How intensely interesting would it be to have before us the workings of such a mind as Newton's, whilst maturing his immortal system. We have a glimpse of such things in what is told of Kepler—of his shrewd guesses, tentative methods, and ultimate success in discovering by these means the two laws of the planetary motions which bear his name; and also in what is related of the cut and weighed paper proceedings of some of the geometricians. The results, of course, appeared in systematic mood and scientific dress. The works of Newton gave evidence of certain secret and facile means, before the method of fluxions was announced or known. We have also, in the detail of the experiments which led Sir Humphry Davy to the discovery of the miners' safety lamp, an interesting instance of this mental process, at least of the general course of his thoughts. We are not to imagine that the analysis or synthesis, as brought forth to public view, is in its mental elaboration a direct and straightforward affair. Doubtless there are alternated or mingled methods of resolution and composition, of experiment, tentation, and verification, in a round of mixed proceedings; but from this seeming chaos of thought the plastic spirit of true philosophy evolves coherent forms of symmetry, of truth, and beauty. The heart of man is a secret thing; but the mind of man is yet more impenetrable. I would also wish to be understood as not contemning mathematical acquirements in the slightest degree, but as pleading for their use in opposition to their abuse, and as moderating only the overweening pretensions of their value and importance, both in an intellectual and useful point of view, in which the *mere* mathematician is apt to indulge.

It may be expected from me that I should apologise for assuming the censor in such sort. I beg, then, in justification and corroboration of my opinions, to quote the following sentiments, which have come under my notice since the preceding observations were written—in fact, the treatise in which they appear is just published: "In mathematics we go smoothly on, neither turning to the right hand nor to the left; there is, in fact, no alternative presented to the mind—we cannot do otherwise than give our assent to what is before us. There is no weighing, no balancing of collateral evidence, or consideration of circumstances, such as often clog and impede our progress in many of the other branches of knowledge. How often do we hear mathematicians bewail the difficulties they meet with when they wander from their own folds; and how often do we hear them give utterance to the pleasing but forlorn hope of seeing all knowledge reduced to mathematical certainty and precision?"—"If we examine mathematics in an intellectual point of view, there appears to be something of a mechanical turn in the acquisition of its truths; and it is by no means evident, that to excel in mathematical investigation, the more lofty and elevated of our mental powers are required to be brought into exercise. There is a fact, besides, established by the history of philosophy in all ages and countries, which pointedly bears out this opinion, namely, that we have daily instances of persons making themselves proficients in mathematical science at a very early age; but we never find that a person becomes eminent in mental, moral, or political philosophy, till more advanced in life. This is a fact founded upon the natural course of the human mind, and clearly teaches us, that higher qualities of intellect are required to reason upon and comprehend questions on topics relating to human affairs, than are necessary in the solution of problems connected with the pure sciences."—[Blakey's System of Logic. 1834.]

There is another very important topic connected with this subject, which is, the hurtful influence which mathematical studies, or rather, which a taste for the abstract mathematical method, has had on general reasoning, and on the tone and manner in which investigations into things in general have been conducted—a taste, which, taking its origin in the mathematical predilections which succeed the downfall of the old scholastic methods, has, from the ease and convenience which it affords, for taking determinate but narrow and contracted views of things, and the flattering but fallacious assurances it fosters of clearness, decision, and certainty, infected the universal mind, and marred the philosophy of the age. The length of this article, already too extended for a single communication, precludes me from appending my observations on this topic; but they may, probably, form the subject of another letter, if you are of opinion, Mr. Editor, that such matters are not foreign to the scope and objects embraced by your highly useful and valuable miscellany.

I am, sir, yours, &c.

BENJ. CHEVERTON.

MODE OF PURIFYING PALM OIL.—*To purify Palm Oil, and to whiten it comparatively for making soap.* Take two parts of quick lime and three parts of the muriate of ammonia, the lime having been previously slacked with half its weight of water, and allowed to cool and reduced to a fine powder, and the muriate of ammonia having also been reduced to a fine powder, and then intimately blended with the powdered lime. The mixture is to be put into a still, or cast iron pan, having a close cover to it, and a tube leading from the head of the pan, or still, to near the bottom of the soap copper, which should contain equal quantities of water and palm oil. On fire being applied to the still, the ammoniacal gas will pass over into the soap copper; and as the water and oil combine, continue adding boiling water to the extent of treble the weight of palm oil in all. By this process the color of the palm oil will be almost instantaneously changed to a pale yellow. The boiling palm oil and water should, of course, be kept rapidly stirring while the gas is passing through. The ammonia, being an alkali, adds to the strength and detergency of the soap, while the peculiar smell imparted by it is so weak as scarcely to be susceptible after a few days' exposure to the atmosphere. —[London Mech. Mag.]

M. DUPIN has been so well pleased with his reception in England, that one of his colleagues, the Duke de Broglio, is about to follow his example, by paying his respects to the Lord Chancellor. Forthwith, of course, he will be taken to the Mechanics' Institution, and made an honorary member. The distinction will not, however, be so appropriately conferred as it was on M. Dupin, whose brother, Baron Chas. Dupin, is well known as the introducer of similar institutions into France.—[Ib.]

The Art of Wine Making—the Gervais Fermenting Apparatus Improved.

[From the London Mechanics' Magazine.]

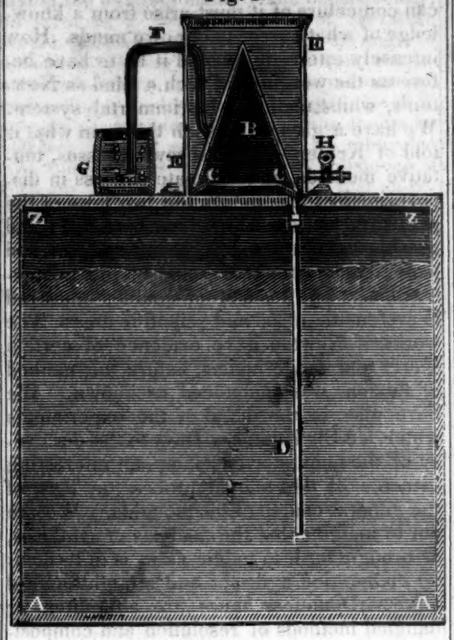
Mr. Booth, whose treatise on the Art of Brewing we lately noticed,* has just produced another treatise on the kindred "Art of Wine-making;"† or, to speak more properly, a volume supplementary to the former. The general principles, and many of the manipulations, of the two arts are so similar, that the business of this new treatise consists mainly in pointing out those peculiarities by which the manufacture of wine differs from that of beer; and the two treatises are so intimately connected, that the one cannnot be profitably perused without constant reference to the other. As Mr. Booth himself observes, "the four parts of the Art of Brewing and these two of Wine-making, with the Appendix on Cider and Perry, may be considered as one continued work, embracing a general system for the manufacture of vinous liquors."

Mr. Booth in his present work treats first of "Wine-making in Warm Countries," and next of "Wine-making in Cold Countries;" or in other words, of foreign and home-made wines in all their numerous varieties. He gives, under both these heads, a great deal of very useful (though not often very novel) information, derived from the most authentic sources, and interspersed with much shrewd observation and judicious advice. One of his best chapters relates to the much contested point, whether open or close tuns are best suited to the process of fermentation? The ancient practice of the wine provinces of France was to leave the tuns open, or, at least, to cover them very slightly; but at the beginning of the present century, a Mademoiselle Gervais introduced a close fermenting apparatus, (afterwards patented in Great Britain by Messrs. Deurbrouck and Nichols,) which having the good luck to be patronised by the celebrated Chaptal, has become all the fashion among our French neighbors. According to the partisans of this new method, it serves not only "to condense, and to return into the fermenting fluid, all the aqueous, spirituous, and balsamic vapors which are usually carried off with the carbonic acid gas, and thereby to enrich the wine, by preserving entire its spirit and perfume," but actually augments the quantity of wine obtained, by from 9 to 15 per cent. Mr. Booth does not altogether dispute these conclusions, but he insists that they are prodigiously exaggerated. He maintains that the increase of volume is "not above one in two hundred;" that "this increase is caused by the condensation of all the gas that is evolved during the whole progress of the fermentation;" and that the proportion of this condensation, which is spirituous, is probably "very small."

We shall leave Mr. Booth, however, to speak for himself. He commences very properly by describing what the Gervais apparatus is, and how it has been proposed by M. Dubrunfaut to free it of its more striking defects.

"Z Z, A A, (see fig. 1,) is the perpendicular and central section of a fermenting-tun, with the apparatus affixed to the close head Z Z.

Fig. 1.



"B is a cone of tinned iron plate, communicating at bottom with the tun, by means of a hole in the cover Z Z.

"C C is a small channel extending round the interior base of the cone, being adapted to receive the condensed '*alcohol* and *essential oils*;' from whence they are conducted, down the small pipe D, into the lower part of the liquer in the vat.

"E E is a cylinder of the same material as the cone which it surrounds, and containing cold water, for the purpose of condensing the vapors which rise into the cone during the fermentation

"F is an egress pipe, communicating with the interior of the cone. its extremity being immersed to the depth of six inches, at least, below the surface of the water in the small tub G, from whence the incondensable gases are permitted to escape into the atmosphere.

"H is a cock to draw off the water from the reservoir E E, when it becomes warm, and requires to be replaced with cold water, as is the case in high fermentations.

"It is asserted by the French chemists, and conceded by Messrs. Deurbrouck and Nichols, the English patentees, that the vinous fermentation will not commence without the access of atmospheric air or of oxygen; but after it has once begun, the further exposure to the air is unnecessary; and the quantity contained in the empty space (left in the tun to prevent the head from rising into the cone) is, they say, perfectly sufficient to originate the fermentation: but, they add, 'as soon as carbonic acid is evolved from the fermenting gyle, the atmospheric air, being lighter, is driven out from the upper part of the working tun; and as no air is permitted to enter afterwards, all the subsequent carbonic acid gas emitted diminishes the quantity of oxygen contained in the gyle, by the oxygen uniting with the carbon as fast as it disunites from the saccharine matter during its decomposition, and thereby secures a soundness and peculiar mildness not to be produced by any other mode.'

"Never having seen the effects of fermentation in tuns, thus, as it were, hermetically sealed, we cannot personally join in their praise; but we apprehend that there is one inherent defect which will always prevent their general adoption in the British brewery—we mean the tardiness of the progress of the fermentation. From fifteen to twenty days, which it is granted would be requisite for the fermentation of table beer, is a sufficient bar to its adoption. On this principle, we suppose that the Scotch ale brewers, who, even with open tuns, often take three or four weeks to a gyle, would require the whole of their brewing season for a single operation.

"It will be observed in the preceding description of the Gervais apparatus, that the extremity of the *egress pipe* F is immersed in water *to the depth of six inches at least.* These six inches impose an additional pressure upon the surface of the fermenting fluid, equivalent, at an average, to the sixty-fourth part of the whole weight of the atmosphere; and, in consequence, has a material effect in preventing the escape of the carbonic acid, thereby retarding the attenuation. 'In fact,' says M. Dubrunfaut, 'the gas, meeting with a powerful obstacle, which opposes its passage through this condensing apparatus, forces its way by other issues, which it finds in the pores of the wood, and the fissures of the lutes which are recommended to close the joints of the cover of the tun. The portion of the gas which thus escapes, by openings that can never be kept closed under such a pressure, subtracts the alcoholic vapors from the refrigerator, and is a fundamental error in the construction of the Gervais apparatus.' We may add, that had it even been perfect, it was not new: it was nothing more than a combination of two principles which had been long known—the condenser of Jean Baptiste Porto, a Neapolitan, which was described in a work on Distillation, published by him in 1609; and the hydraulic valve of M. D. Casbois, which was announced in a French Journal of Sciences and the Arts in 1783.

"It will naturally be asked, in this place, whether or not the rise in the barometer, to the extent of about half an inch, would not have the same effect on the vinous fermentation as the Gervais apparatus? We say that it would have more: for, in the case of an increased weight of the atmosphere, the pressure all around the tun would be equal to that upon the surface of the liquid. One marked difference would be, that there would be no exit through the pores or chinks of the tun; for these fissures would be equally pressed upon by the external atmosphere. We have been long aware that the variations of the barometer are indicative of alterations in fermentative processes of every kind; and we doubt not that a time will arrive when that instrument will be considered as a necessary appendage to the other instruments which are now consulted by the manufacturers of vinous liquors. Persons who have not attended to this particular subject, (and there are few who have,) can have no conception of the effects of atmospherical variations. Wine-making is confined to a certain season, and to countries where the variation of the barometer is comparatively small; it is in the regions of the north that those effects are more particularly worthy of observation. On this subject we have made many experiments; but what might be useful as suggestions to a scientific manufacturer, would be here out of place. As long as the mind remains doubtful of the facts,

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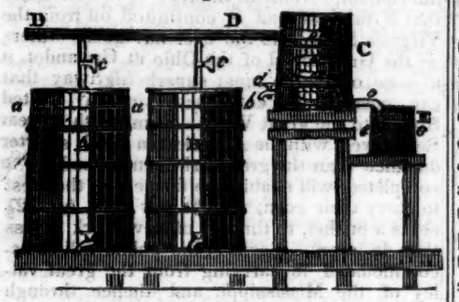
* See page 454, of this work.

† The Art of Wine-making in all its branches. By David Booth. To which is added an Appendix concerning Cider and Perry. London: F. J. Mason. 123 pp. 8vo.

they ought not to be given to the world as *knowledge*.

"The author last quoted has proposed a mode of close fermentation, which is free from the errors and absurdities that attach to that of Mademoiselle Gervais; and as it may be useful in the vinous fermentations of this country, and does not interfere with the English patent above mentioned, we take this opportunity of publishing a brief description of the process:

Fig. 2.



"A and B, in fig. 2, represent two of any number of fermenting tuns, which may be arranged and combined on the same principle. They are here re-printed as of the same size, and as placed on the same horizontal level; but these circumstances, though convenient, are not necessary. The lines *a a* and *b b* mark the surface of the *must*, or other fermentable liquid.

"D D is a pipe, communicating with each tun by means of branches, which are inserted through the close head, and which may be stopped at any time, by means of the stop-cocks *c c*.

"C is a cask or other vessel, filled with cold water, through which the pipe D D is continued in the form of a worm, *o o o o o*: this water may be drawn off when too warm by means of the cock *d*, when this refrigerator can be re-filled with cold water, through an opening in the head.

"E is a smaller vessel or tub, destined to receive the product of the condensation of the vapors arising from any or all of the fermenting tuns. Those vapors rising in the branch pipes *c c*, into the main D D, pass through the worm *o o o o o*, which is bent, when it leaves the refrigerator, into the tub E, reaching half-way to its bottom.

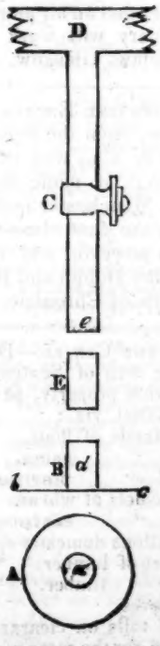
"It will be obvious, from this arrangement, that the condensable vapors which arise with the carbonic acid gas, will, by passing through the refrigerator, be collected at the bottom of the tub E in a fluid form, while the upper part of the tub will be filled with gas. Care must be taken to draw off portions of this fluid from time to time, (by means of a cock in the bottom of the tub, which is not here represented,) so that it may never rise above the level of the orifice of the worm; for were the fluid, for example, to rise to the level *e e*, it would, according to its gravity, form an hydraulic valve, which would cause an additional pressure upon the surface of the fermenting liquid, the prominent objection to the Gervais apparatus.

"On this plan, the complex apparatus for each tun is rendered unnecessary; for a single one of sufficient size will serve for any number of working tuns. The condensed liquid is not hereby returned to cool the fermenting mass; and the distiller, for whom we should suppose the practice well adapted, might carry the liquid from the tub E directly to the still. It may, however, be returned into the mass by a long-stalked funnel, if desired. The worm gives a free passage to the vapors; since its lower extremity, being plunged only in carbonic acid gas, cannot be said to offer any obstruction. The liquid in the tun is then fermented solely under the simple pressure of the atmosphere; and the carbonic acid gas, finding an easy escape through the opening of the worm, no longer seeks to force a passage through the pores of the wood or the chinks of the tun.

"The gas, which, on account of its density, constantly fills the tub E, prevents all risk of absorption of atmospheric air as completely as is done by the hydrostatic valve of Gervais. When there is a range of tuns, one or more will be continually discharging carbonic acid gas; but where there is only a single tun, and that not in full operation, the accession of air could be equally well prevented, for it would only be necessary to fill the tub with water until the surface should rise two or three-tenths of an inch above the lower extremity of the worm, as shown by the line *e e*.

"When we want at any time to look at the state of a tun, we have only to shut the cock *c* (which shuts out all communication with the others), and, opening a plug-hole in the head, draw off what we require by means of the cock at the bottom. In the same manner we may charge and discharge the several tuns successively, without their interfering with one another. Each may be washed out by having a *man-hole* in the upper end; or it may even be taken away and re-placed by another, without retarding the operations of its neighbors. For the more easy performance of this latter purpose, M. Dubrunfaut recommends the following disposition of certain parts in the construction of the apparatus:

Fig. 3.



"Fig. 3 represents, on a larger scale than that of fig. 2, the pieces necessary for the purpose above mentioned.

"B is a tube and flange, seen sideways, of which A is the face, being a circular plate of the diameter of its section *b c*. This piece is fixed by nailing the disc *b c* upon the head of the tun, in such a manner that the opening *a* corresponds with the hole which is made in the head of the tun, for the purpose of allowing the escape of the gas: the tube *d*, of which *a* is an extremity, being of the same diameter as the hole.

"The tube *d*, which is thus perpendicular to the head of the tun, is of the same diameter as the tube *e* of the piece C; and these two tubes, when the apparatus is finished, will be united at their orifices so as to form a single continued pipe. In order to close completely any little openings between their orifices, the cylinder E, the diameter of which is a little larger than that of the tubes *d* and *e*, is drawn over the junction, and its extremities are luted to those tubes so as to prevent all access of air or escape of gas. The piece C is previously united to the larger tube D, which here represents a part of D D, fig. 2. From this disposition of the parts, it is easy to see, that by shutting the cock of the piece C, and pushing upwards the moveable socket E, the tun may be completely disengaged, without affecting any other part of the general arrangement.

"We have dwelt the longer on this subject because of its probable adoption by the distiller and vinegar maker, for whom we should suppose the close fermentation to be better adapted than to the brewer, or even to the foreign wine-maker. The produce will be found to be very various, according to the heat of the fermentation and the quality of the fermenting fluid. At an average, perhaps, it may be estimated at about the two-hundredth part of the quantity of liquid that is fermented; and in quality, chiefly water mixed with a small portion of alcohol, or rather of the immediate materials of alcohol."—pp. 16–23.

On the adulteration of foreign wines, we have the following acute remarks:

"To the inhabitants of this country it is of much less importance to know how any particular species of foreign wine is manufactured, than to learn how to guard themselves from the effects of its adulteration. The following observations may, perhaps, account for an occasional accident, and at the same time may serve as a caution to the bottlers of wine in this country.

"We have already mentioned, that the bottled wines of the Continent (particularly champagne) undergo at least one or two *decantings* or *rackings* in the bottles before they are exported. A *bin* of wine is tried, to see whether or not it is fit for the foreign market. The practice is (especially in the wine of which we speak) to use very fine, that is, elastic corks; to push them half into the bottle; and to press the upper part over the neck, in a sort of girth or rim, which is kept down by means of twisted wire. This cover of the top of the bottle is re-covered with wax of a certain color, and what that color is depends on the substances with which the wax is mixed. If it be yellow, the coloring matter is orpiment; if it be green, the color is usually given by a mixture of orpiment and Prussian blue. Both these coloring matters are poisonous; for orpiment is sulphuret of arsenic, and Prussian blue is formed from one of the most instantaneous poisons—the prussic, or, as it is now termed, hydrocyanic acid.

"Let us suppose, then, that a bin of champagne is intended to be exported, or, if in a

British cellar, to be sent to a customer. A bottle is drawn for trial, and is found to be deficient in effervescence. This can be remedied by inducing a new fermentation; and we know that it is the practice to accelerate this desirable quality by means of the introduction of a syrup of sugar candy, mixed and purified with cream of tartar. This addition, which is put into the bottle in proportion to the taste of the customer, is certainly not deleterious. But the cork is drawn, the seal is broken, and a part, perhaps a few chips of the wax, is rubbed off, and enters into the bottle. If the color has been either green or yellow, arsenic also enters; and, unfortunately, the world is but too well acquainted with the consequences. We may also add, that in French cellars the wax has another object in view besides (what is generally thought) the exclusion of the atmospheric air. In that country there are numerous swarms of insects, who are ready to devour the corks, and penetrate to the liquid. As far as regards these insects, the poisonous quality of the coloring matter is not to be regretted."—p. 52.

A danger of a less formidable nature to be guarded against, is the substitution of certain home-made imitations for the genuine products of the continental vineyards:

"Of all the vinous liquids which are manufactured in this country, beer and ale, cider and perry, (and mead and mum, when not banished by excise regulations,) are the only kinds that can be called national. The juices of most of our native fruits possess too little *saccharum* to be fermented pure; and when malt wort, or honey, was formerly added, as sugar has been in late times, the compound was also flavored and colored with extraneous substances, so as to imitate one or other of the favorite wines of the Continent. This was more particularly attended to when the making of 'sweets,' or 'British wines,' became a trade. The imitation of foreign wines originated in fraud, and excise duties raised the imitators to the rank of authorised manufacturers. As long as these gentlemen were contented with the ordinary names of currant wine, gooseberry wine, &c. all was well; but we now see champagne, sherry, port, &c. in the bills of the British wine makers, and we have little doubt that some of these compounds occasionally find their way into the cellars of the 'dealers in foreign wines.' Champagne, in particular, is a very high priced article; and the British champagne, made from gooseberries, if properly made, and drunk when young, may impose upon three-fourths of the purchasers. Perry, also, particularly in mixture, is passed off for champagne, and is, perhaps, not much inferior to the real wine which it imitates. It is not so much the inferiority as *the lie*, which passes a cheaply made article for one that is more expensive, that constitutes the quackery and the crime of those ingenious imitators. If we can make a British wine equal to champagne, we have a right to do so; but we have no right to pass it off *in trade* as a foreign wine."—pp. 61, 62.

In the "Appendix concerning Cider and Perry," Mr. Booth represents the English manufacture of both these liquids to be in a very declining state. His observations on the subject are well deserving of attention:

"We have reason to believe that the superior sorts of perry, as well as of cider, though they may have the same names, are not equal to what were sold for such forty or fifty years ago. Most of the trees that were famed for the excellence of their produce are either dying or dead. Mr. Marshall published his Rural Economy of Gloucestershire in 1789, at which period he laments the decay of the finest fruit trees. 'All the old fruits,' he says, 'which raised the fame of the liquors of this county (Herefordshire,) are now lost, or so far on the decline as to be deemed irrecoverable. The *red streak* is given up; the celebrated *stire apple* is going off; and the *squash pear*, which has probably furnished this country with more *champagne* than was ever imported into it, can no longer be got to flourish; the stocks canker and are unproductive.' The squash pear is described as remarkable for the tenderness of its flesh, which bursts, (or rather burst*ed*,) if allowed to fall ripe from the tree; and hence the name.' —pp. 119, 120.

The pity is the greater, that our British perry is (or rather was) a species of wine particularly worthy of cultivation:

"Perry, when the manufacture has been successful, is much more similar than cider to the sweet wines of the grape. Without any mixture it has often been taken for the best quality of effervescing champagne. The juice, mixed with an equal quantity of a purified syrup of sugar or of honey, of about 25 lbs. gravity, (being allowed to finish its fermentation, so as to be bright before bottling,) is scarcely to be distinguished from a foreign wine of a superior species."—p. 121.

Iron Boat on a New Principle.—Mr. David Napier, engineer, has fitted up an iron boat on a new principle, to sail on the Clyde. A large portion of the boat below the water line is formed into a condenser, and the water outside keeps it cool, so that little (if any) injection water is required. In this plan, the water pumped into the boiler will not be so salt as if more water were let into the condenser; and an air pump a little smaller than ordinary will work the engine.—[James Whitelaw, Glasgow, June 25.]

New Locomotive Engine.—A new locomotive engine, from the foundry of Messrs. Geo. Forrest & Co., was tried on Monday on the railway. It made the journey from Liverpool to Manchester in 67 minutes, and brought back the first class train in 77 minutes. This powerful and rapid engine is intended for the Dublin and Kingstown Railway.—[Liverpool Chronicle, July 28.]

Trade on the Canals.—During the week ending on the 28th of September, the following, among other property, passed Utica east on the Erie Canal, viz.:

54,229	barrels of	flour.
823	"	ashes.
172	"	provisions.
57,937	bushels of	wheat.
25,517	"	coarse grain.
33,914	gallons	domestic spirits.
1,111,590	feet of	lumber.
18,126	"	timber.
361,700	staves.	

Amount of tolls on clearances passing and issued at Utica, for the same period, $37,788.62.

Railroad.—We learn that the Paterson Railroad received in August $4,500, and in September 4,589. In September, the receipts were, for freight, $2,000, and for passengers, $2500. In August, for freight, $1400, and passengers, $3,000.

Railroad in Virginia.

Orange C. H., Va. October, 1834.

To the Editor of the Railroad Journal:

Dear Sir,—I have noticed in the Virginia Herald a project for a railroad from Fredericksburg, or the Great Bend of the Potomac, to the Virginia Springs, through the Blue Ridge, &c. I look upon this scheme as both practicable and grand, as far as it goes. But one has only to open his eyes upon your new Railroad Map, which should be in the hands of every friend to internal improvement, in order to be convinced that if this railroad is continued on from the Virginia Springs to the ever navigable waters on the Great Bend of the Ohio at Guyandot, it at once opens the most superb highway that can possibly be constructed in the United States, to the great West. It unites the great South-west with the Atlantic in a much shorter distance than the great Erie canal; and when completed, will enable the farmers of the west to carry their corn, which now sells for 12½ cents a bushel, to the city of New-York in less than 48 hours. Besides, the public will be accommodated in carrying from the great valley of the Mississippi, and thence through Fredericksburg and Washington, Baltimore and Philadelphia, to your city, in a comparatively short period; whereas, to my knowledge, hundreds, if not thousands, have during the past season waited at Guyandot, day after day, for want of conveyance to the White Sulphur and the northern cities. All the travel from the South-west to Washington city, during the session of Congress, will of course fall into this track, the route being nearer and quicker than any other. The inhabitants of Kanawha are now ready to do much for the construction of this road, in order to give free transport to the millions of bushels of salt now manufactured annually at their works. A few days ago I saw a merchant from near the salt works on his way to Philadelphia and New-York to buy goods, which he said he should send home by way of Pittsburg or Wheeling, and that he must wait for rains, because the Ohio was quite too low at this time, and at the best it required four weeks at least. Were the railroad of which we have been speaking completed, it would require no more than 44 or 45 hours to transport the same goods from New-York. If I had time I might mention other advantages, but I only wish to call the attention of the public to this route, and I am sure that they will at once see those advantages, and save me the trouble of mentioning them. I am glad to learn that wood for railroads can now be made durable, as it will greatly lessen the expense of excavations and embankments. In the route above mentioned, there are but few streams to cross, and the gaps through the mountains render it comparatively a level grade. I remain, dear Sir, very respectfully, yours,

J. McAdam, Jr.

Steam Communication with India.—The House of Commons' Committee on Steam Communication with India have reported to the House that, in their opinion, the route by the Euphrates and the Persian Gulf is superior to every other proposed, for its "physical, commercial, and political advantages," and they recommend that a grant of £20,000, should be made by Parliament to defray the expense of giving it a fair trial. The distance from Bir, in the Persian Gulf, where this line would commence, to Scanderoon, in the Mediterranean, is stated to be much less than that between Suez and Alexandria. The Committee do not appear to have inquired at all into the merits of the route by the Cape of Good Hope. We are surprised at this, for whatever may be said in favor of either of the Mediterranean routes, as affording a quick, though not always sure, conveyance for letters, we think it is demonstrable that for goods, passengers and troops, the line by the Cape is that on which steam may be employed with the greatest advantage.

We alluded some time ago to a pamphlet, by the Messrs. Seward, C. E., in which this view of the subject is very ably advocated, and shall take an early opportunity of bringing it again more particularly under the attention of our readers.—[Lond. Mech. Mag.]

[*From the Journal of Commerce.*]

U. S. District Court.—Judge Betts presiding.

William Falconer vs Edward Clark. Scire Facias to repeal a Patent.

This patent was for an improvement in the manufacture of white lead and other metallic salts. The patent of the defendant was thus set forth; viz:—"I rest my claim to invention on the introduction or admittance of atmospheric air, air containing oxygen, with the other agents or materials named, that is, the vapor of vinegar and carbonic acid generated by the combustion of fuel, or disengaged from chalk or carbonate of lime, either pure, or mixed with such irrelative matter as will not interfere with the process, or by whatever means or apparatus their introduction or admittance may be effected, into cisterns or apartments, appropriately supplied with metal lead, or with the metal to be acted upon."

The plaintiff insisted that this was in principle and effect the process of Montgolfier and Noble, and called John Steele, professor of chemistry, who said he had lectured in Scotland and in New York before the Mechanic's society, and had long devoted himself to the sciences as applied to the arts.

Into his Common Place Book of 1817, from some work of science at Glasgow, he copied Mongolfier's process, which was thus; viz:—He constructed a reverbatory furnace, in which was placed burning charcoal; the air that passed in was partly formed into carbonic acid gas, and partly passed the furnace undecomposed into a barrel, partly filled with vinegar, and created a vapor of it, which by a tube communicated with a rectangular case, in which was suspended sheets of lead, and into this case passed the vapor of vinegar, carbonic acid gas, and the oxygen not destroyed in passing the furnace. The case had an aperture to pass off the redundant gas. This was a spontaneous in roduction of oxygen, carbonic acid gas, and vapour of vinegar, into a cistern filled with sheets of lead, to convert them into white or carbonate of lead. See Tenard's Chemistry, and Annals de Chimie and Orfile. Noble's patent used, in a different way, the the true agents to operate on shets of the metal. See a pecification in Repertory of Arts, vol. 13.

He says Clark's process is the same in i principle and effect. The elemental materials the same, and they produce the same effect. From his knowledge of Chemistry, no doubt Montgolfier's plan would succeed—never knew it put in operation—heard of it once in use at Glasgow, and abandoned. Orfila Vol. 1, 1828, is read as follows, viz:—"Before knowing this process (Litharge) they made White Lead by submitting sheets of the metal to the action of vapor of vinegar, air and carbonic acid. The Lead oxydated and passed to a state of sub-acetate, which was then recomposed by the carbonic acid. This process, less advantageous than the first, is not yet altogether abandoned."

Plaintiff rests. Defendant calls Professor *Latham W. Gray*, who says that he has ascertained that oxygen is taken out of air that passes through the fire.—Presumes if air is a necessary agent, White Lead cannot be made by Montgolfier's process. In Clark's works at Saugerties, the same air goes through the furnace as in the process of Montgolfier, with an additional quantity at Clark's forced in. The great advantage of Clark's method is the forcing in atmospheric air.

Cross-examined.—Says Chemists don't pretend to fix the quantities of the agents. If Montgolfier's plan admitted sufficient air to go through the furnace, it would make White Lead. The difference between Clark and Montgolfier is—Clark has an apparatus to force in air. From Montgolfier's process, I think he intended a sufficient quantity of oxygen should pass the furnace to produce the desired effect; and of his three agents, oxygen was one. In Orfila's treatise I should, as a Chemist, know the agents must be confined, to operate.

James W. Macneven, for Plaintiff, says—He has long been Professor of Chemistry in the New-York State Medical College. I have concluded from Works of Science, Montgolfier's process has been put in practice; but I know not the fact. Atmospheric air there is not all decomposed in passing over the charcoal. I may say I am satisfied Montgolfier's plan was used in France. In it, there is a spontaneous supply of oxygen and carbonic acid gas.

William H. Elliott, M. D. has lectured on Chemistry, has known Montgolfier's system for many years. Oxygen is a part of it—thinks it would succeed.

Defendant calls *Michael Casey*, workman. Proves that Ripley at Saugerties draws his carbonic acid gas and oxygen over and through a furnace. The air was drawn in;—corrosion in 10 or 12 days.—The plan of Clark is a good one, and makes good Lead.

George S. Howland, for Plaintiff, says, he is connected with the Brooklyn Works. The plan of Litharge is used in France, and patronized by government; yet there are other plans. Generally in England and America the old pot method is preferred. It takes from 30 days to 3 months; and the longer the better, for a corrosion. We experimented on a plan like Clark's, and abandoned it.

William Cumberland, for Plaintiff. Atmospheric air or oxygen is considered a necessary agent. I never used it as a distinct one. I experimented and obtained a corrosion daily.

James Renwick, for Defendants, Professor in Columbia College, says he never heard or knew that Montgolfier's plan went into use.

Plaintiff insisted,—

That the same elemental meterials to produce the same effect, having been known and used before the patent, that therefore, Clark was not the inventor, and his patent void.—

That whether the same plan was used or not, it was sufficient that it was well known and could have been put into successful operation, as was proved by Professor McNeven, Eliot and Steele.

The patentee was in law presumed to know all matters described in books of sience, and no ignorance in fact could excuse him.

It was proved that excellent white lead was made by Clark's patent.

The defendant insisted that a merè description of the mode, if not proved to have been put in use, would not repeal the patent.

The Judge delivered a very lucid ond learned charge to the Jury.—He stated that they were to read the specification of the patentee, and from his summary, ascertain what he clamed as his invention. If this had been before published in works of art and science, the patentee was presumed to know it—If they found that the invention claimed had been known before and described in authors upon the subject, although it might never have been used, the patent was void. But if they found the invention claimed, a new one, and the patentee the true inventor, the patent was valid.

The Jury found for the Complainants, on the ground that the defendant was not the true inventor, and also further found that the patent was not obtained surreptitiously, or upon false suggestions.—Mr. Clarke has appealed.

For Complainants, C. Walker.

For defendants, Staples, D. P. Hall and Patten.

The French Treaty.—The Globe of Monday, gives the following abstract of the chief incidents connected with the forming of this treaty:—

The Convention was signed at Paris on the 4th of July, 1831; the ratifications were exchanged on the 2d of February, 1832, at Washington.

The French Chambers were in session to the 21st of April. The exchange of ratifications must have been known in Paris prior to the close of the session! The subject of the treaty was not presented.

The Chambers met again on the 19th of November, 1832. The session closed on the 25th of April, 1833. On the 6th of April, the Minister of Finance laid before the Chamber of Deputies the treaty with the United States, and a bill making the appropriations to execute it. The bill was read and referred to a committee. No action upon the subject during that session, which closed on the 25th April, 1833.

The next session opened the following day, 26th April, 1833. On the 11th June, the Minister of Finance presented a new bill. It was read and referred. Some incidental discussion took place on the 13th June, but nothing important was done.—The session closed on the 26th of the same month, no further notice being taken of the bill.

The next session began on the 23d December, 1833. On the 13th of January, 1834, the Minister of Finance again presented the bill. It was received, ordered to be printed, and referred to a committee. On the 10th of March, Mr. Jay presented, from the committee, a detailed report, recommending the adoption of the bill. The discussion commenced on the 28th of March. The bill was opposed—by a few of the speakers, because France should not have agreed to pay any thing to the United States; by others, because the administration had contracted to pay too much. The debate continued three days, and on the 1st of April, the Chamber voted—344 members being present.

The votes in favor of the bill were	168
Against it	176
Majority against it	8

The competent authority having refused the appropriations requisite, the United States would have taken it for granted the decision was final, and the President would necessarily have called upon Congress to decide upon the measures to be pursued.—To avert this consequence, the King of France sent a national vessel to his representative in this country. The vessel arrived before Congress adjourned, and the President made no communication to Congress. The People will understand that the assurances given to him by the Executive of France must have been full and satisfactory as to the intentions of the King, and his expectations of seeing soon redeemed by the new Deputies the faith of the Government which had been disregarded by those whose term of service had just expired. The French Chambers ordinarily meet in December. The King has the constitutional power to convoke them, and they do not assemble until called. If he does not assemble them unusually early, the question will stand as it now stands, at the meeting of Congress, and the final decision of the French Chambers will not be known here, until near the close of the session of Congress; that is, a few days before the 4th of March next.

It is greatly to be desired that the Chambers should assemble before the meeting of Congress, and that the decision of France should be communicated some time before the 4th of March, otherwise, provisional legislation, at all times to be resorted to with regret, may be found necessary to the character of the United States and the just claims of their citizens.

The President of Columbia College has been directed by the Board of Trustees to return their thanks to John Bowring, Esq. LL. D., of London, for his present to the Library of the College of the works of the late Jeremy Bentham, and also to Col. C. W. Pasley, C. B., F. R. S., of the Royal Engineers, for a similar donation of his "Observations on the Standards of Measures, Weights and Money;" which acknowledgments have accordingly been communicated to those gentlemen respectively.

The President has also received from the Most Rev. The Arch Bishop of Dublin copies of various tracts and pamphlets published by his Grace within the last few years, and transmitted by him for the Library of the College; and from Henry Beaufoy, Esq. of South Lambeth, the first volume of a series of Nautical Experiments, by his father, the late Col. Mark Beaufoy, F. R. S. &c., which publication is to be comprized in three volumes Royal Quarto, illustrated with Engravings by the first artists, and is not intended for sale, but to be distributed among such societies and individuals, as may feel an interest in its subjects. In pursuance of this liberal intention, the work has been presented to the College since the last meeting of the Trustees, and in the recess of the Board, the President loses no time in acknowledging this splendid donation, as well as the valuable gifts of Archbishop Whately.

The liberalizing influence of learning and letters, is very agreeably evinced in the recent presentations by the British Government in some instances, and by munificent individuals in others, of valuable records and publications, to literary institutions in our country.

A notice appeared in our columns a day or two since, from the President of Columbia College, acknowledging the receipt of several such presents—among them, that from *Henry Beaufoy*, Esq. of Surry, England, embodying the nautical and hydraulic experiments, &c. of his father, Col. *Mark Beaufoy*.—It gives us pleasure to state, as we are authorized to do, that a copy of this work has also been sent to, and received by, the *Naval Lyceum* at Brooklyn, and another for the use of the Navy Yard there.

The Albany Institute, too, as we perceive by the Albany Argus, has received a copy, as have some distinguished individuals among us. Mr. *G. C. Verplanck*, we know has, and there are others to whom the liberal Editor has transmitted this best record of a father's talents, and of a son's admiration and respect.

NEW-YORK AMERICAN.

OCTOBER 11—17, 1834.

LITERARY NOTICES.

THE AMERICAN LIBRARY, No. 2—by Samuel L Knapp—New-York, CHARLES LOHMAN & Co.

This cheap weekly publication was, on the appearance of the first number, commended to our readers, as one specially deserving patronage from Americans, for it is devoted to illustrate their early history; this second number continues the biographies of the most distinguished early discoverers—the price only sixpence per number. The Editor would, we think, add to the value of his work, especially in the eyes of those who are fond of historical research, by giving the authorities, on which he relies, or from which he obtains his facts.

THE NORTH AMERICAN REVIEW, No. LXXXV—BOSTON, CHARLES BOWEN.—The first paper in this number is a curious one. It is a record of the origin and progress of periodical literature in this country. After reading the annexed extract, and then looking at things as they are, with newspapers, pamphlets, magazines, and reviews, so abundant as almost to defy enumeration, we may realize something of the "march of mind," about which so much has been said.

The first newspaper in these colonies, in fact began about the same time with the first Scottish Gazette, in the year 1704. It was called 'the Boston News Letter, published by authority,' and was issued every Monday, at a house, part of which is, or was lately standing, behind what was No. 56, Newbury street. The printer was Bartholomew Green, son of Samuel, whom we have mentioned as printer to the college; a person of consideration, and several years a deacon of the Old South Church. Among other subjects of commendation urged in his obituary, is his 'caution of publishing any thing offensive, light or hurtful.' The proprietor, however, for the first eighteen years, was John Campbell, a Scotchman by birth, the postmaster of the town, whose office, without supposing it to have exercised, in him, the sharp intuition of his countrywoman, the postmistress of St. Ronan's Well, naturally gave him the freest access to intelligence useful to his work. At the end of eighteen years it fell into the hands of Green, and by him and his successors was continued till the evacuation of Boston by the British troops in 1776, being in later years the organ of the Tory party, and the only paper continued in Boston through the siege.

William Brooker, being appointed Campbell's successor in the post office, resolved to turn his official advantage to similar account, and accordingly, Dec. 21st, 1719, set up the second newspaper in the colonies, called the Boston Gazette, employing James Franklin for his printer. In two or three months after, Brooker, in his turn, was superseded by Philip Musgrave, who accordingly coming into possession of the newspaper, gave the printing of it to Samuel Kneeland, a former apprentice of Green, who issued it for eight years from his printing house at the corner of Prison lane (now Court street) and Dorset's alley, an estate constantly occupied in this manner from the year 1718, till within the lifetime of the present generation.

At the end of this term, a new postmaster, coming into possession of the Gazette, naturally looked to his own line of patronage in the way of printing; and Kneeland, experiencing the common lot of dependants on the great, and thrown again upon his own resources by a like turn in the wheel to that on which he had risen, indemnified himself by setting up the New England Journal on his private account, with the benefit of his past experience, and the knowledge acquired, in his palmy days, of matters behind the veil of state. This journal was largely aided by such considerable men as Judge Danforth, and Mather Byles the elder, and took a leading part in the religious disputes of the time, on the side of Edwards and Whitefield. Its publication was carried on for fifteen years, at the end of which time it was united with the Gazette, under the name of the Boston Gazette, and Weekly Journal, and so continued to be published till 1752, when Kneeland, separating himself from a partner in the printing business took another departure on the editorial voyage, with the name of the Boston Gazette, or Weekly Advertiser, containing, as its inscription read, 'the freshest advices, foreign and domestic.' It was published but two years, being one of the victims of the provincial stamp act.

Meanwhile, there had been a great episode in the newspaper history; great, as the event connects itself with an immortal name. The first number of the New England Courant, the third journal in Boston, which was continued but six years, was issued Aug. 17th 1721, by James Franklin, who, as was mentioned above, had been previously employed a short time in printing the Gazette. The two first papers had helped each other, for the News Letter languished till the Gazette was set up, and never languished after. But the profits of collision have a limit; and in order to get forward under the disadvantages of so undue a competition, as that of two other newspapers in such a village, it was needful to strike some new and bold stroke for popularity. Franklin took the obvious course of free and offensive comment on the respected men and opinions of the day; calculating, no doubt, that there were enough who would relish seeing their betters called in question, to secure to him a prompt patronage, amd perhaps, if he looked further, persuading himself that having become a troublesome, and feared and so prosperous and important man, he might when ever the time was ripe, become a forbearing, and then a courted and trusted man at his leisure.—He was aided in his editorial labors by a society called by moderate people, the "Free-thinkers," and qualified by others with the less euphonious appellation of "the Hell-fire club." But the master spirit in the Courant's better days was Franklin's brother Benjamin, then a boy apprenticed in the office. The paper provoked the severe displeasure of the clergy and the government, which the latter did not fail to manifest in the processes of legislative and judicial action. All this it might have continued, with good management and a portion of the popular favor, to brave or evade, and thrive upon, but Franklin was indiscreet enough to quarrel with his brother; and with his elopement to Philadelphia, the glory departed from the Courant, and its weak life soon expired.—After Benjamin had abstracted himself, the Courant continued to be published in his name, as it had been for some time before,—though he was a minor,—in consequence of an order of the General Court, forbidding its publication on the part of James.

Four years after the Courier had come to its end, the Weekly Rehearsal was set on foot by the famous Jeremy Gridley, afterwards attorney general of Massachusetts Bay, then a young lawyer of brilliant promise. At the end of a year, he wearied of the work on which he had expended much classical lore, and the labor of weekly essays full of sense and entertainment; and it went into the hands of Thomas Fleet, an Englishman by birth, and a printer by trade, who had brought himself into trouble in London by his antipathy to the high church party, manifested in a studied affront to the procession in honor of Dr. Sacheverel. He then lived, as his posterity do now, at the corner of Washington street and Water street, a spot long distinguished by the sign of the Heart and Crown, and afterwards, when crowns went out of credit, by that of the Heart and Bible. Fleet was a humorist,—a man of talent and energy, and possessing uncommon resources, in his mind and experience, for his present undertaking. His satire was generally good-natured, and always free and copious. He fully preserved the latter strain, and somewaat abandoned the former, in an attack on Whitefield, then at the height of his popularity. For some unexplained reason, he changed the name of the Rehearsal, after printing it about two years, to that of the Boston Evening Post. This he continued thirteen years longer, to the time of his death, and it was undoubtedly much the best paper of its time. It was brought down by his two sons to the month of the Lexington battle.

Before the year 1750, only two newspapers, in addition to what have been mentioned, were established in Boston; the Weekly Post Boy in 1734, and the Independent Advertiser, in 1748. The first, which was continued about twenty years, was, like others before, established by a postmaster; that official, it would seem, in our ancient times, not being expected, more than an aspiring statesman in the modern, to be without a paper of his own. The latter, set up in 1748, was, through its short life of two years, of political importance; and among other leading names in the leading Whig circles, is said to have had Samuel Adams for one of its contributors.

The two first newspapers in the colonies, out of Boston, were the American Weekly Mercury, printed in Philadelphia by Andrew Bradford, begun December 22d, 1719, and the New-York Gazette by William Bradford, dated from Oct. 16th, 1728. Up to the year 1750, besides the seven Boston papers, already spoken of, the whole number undertaken in British America was thirteen, viz. the Rhode Island Gazette, begun in Newport in 1732; in New-York, the New-York Gazette, already mentioned, and three others; in Pennsylvania, the American Weekly Mercury, mentioned before, the Pennsylvania Gazette, purchased by Franklin in 1729, within a year after its establishment, and conducted by him for thirty years, and two others, one in German; the Maryland Gazette, published at Annapolis, and dating from 1728; the Virginia Gazette, from 1736; and two successive South Carolina Gazettes, at Charleston, from 1731 and 1734.

In the excited times, which followed the year 1750, the French war then about coming on, and afterwards the disputes which eventuated in the revolutionary struggle, the number of newspapers increased with comparative rapidity. We shall not undertake to follow their history further; but, before leaving this part of our subject, will select a few facts illustrative of similarity or difference between their remote and their recent relations to the community which they illuminated, and partially of the taste, resources, manners, and feelings of the times.

The first papers were commonly printed on a half sheet of pot paper. Occasionally, when there was a special press of matter, like what now calls forth the supplement, a whole sheet was used. Sometimes they were printed in folio, sometimes in quarto, no scrupulous regard being had to the convenience of binding. The News Letter introduced itself with an advertisement as follows.

'This News-letter is to be continued weekly; and all persons who have any Houses, Lands, Tenements, Farms, Ships, Vessels, Goods, Wares or Merchandizes, &c., to be sold or let, or servants runaway, or goods stole or lost, may have the same inserted at a reasonable rate, from twelve pence to five shillings, and not to exceed, who may agree with Nicholas Bonne for the same at his shop next door to Major Davis', apothecary in Boston near the old Meeting House. All persons in town and country may have said News-letter weekly upon reasonable terms, agreeing with John Campbell, postmaster of New England, at Boston, for the same.'

There were only four or five post offices at this time in British America. There was one advertisement in the News Letter's first number, and two in the second.

Of the remaining articles in this number of the Review, we may speak hereafter.

THE PROTESTANT EPISCOPAL PULPIT, No 10, vol. IV. New York, JOHN MOORE.—The number before us of this religious periodical contains a Sermon by the Rev. *J. P. K. Henshaw*, D.D., of St. Peter's Church, Baltimore, on the "the Past State and Present Prospects of the Church." The publisher gives notice that he will, if adequately encouraged, supply the *fifth volume* of the Pulpit, at the low price of *one dollar*.

ITALY, WITH SKETCHES OF SPAIN AND PORTUGAL; by the author of *Vathek*; 2 vols. Philadelphia: *Key & Biddle*, for sale in New York by *J. Wiley & Co.*—The pampered child of fortune, "England's wealthiest son," the luxurious, the highly educated, the solitary Beckford, here presents us with letters descriptive at a period long-gone-by, of the beauties, the fair landscapes, and other natural phenomena of Italy,—scenes which—as the preliminary advertisement, in referring to human institutions, well says—while the "old order of things, with all its picturesque pomps and absurdities," has disappeared, it "is not in the power of revolutions or constitutions to alter, or destroy."

The singular being who now publishes, after the lapse of half a century, letters written in the heyday of youth and brilliant hopes, is known only by report to the present generation by the fantastic wonders of Fonthill Abbey. His eastern tale of *Vathek*, so highly praised by Lord Byron, has not, that we are aware, been re-published in this country. It struck us when we read it—many years ago—as quite as remarkable for its pure and idiomatic French, in which language it was written, as for its lively picture of Eastern manners.

It is among our agreeable impressions of past

days, to have wandered in company with Mr. Canning—then the British Ambassador at Lisbon—through the deserted halls, the doorless apartments and roofless galleries of the beautiful dwelling which Mr. Beckford had so picturesquely embosomed amid the exquisitely picturesque mountains of Cintra. It had long been untenanted. Its frescos had faded; and even in that lovely climate the damps had cast down the stuccoed ceilings, beneath which, in other days, the Wanderer had dwelt and revelled. All within was desolate; but without and around Nature was beautiful, magnificent, and bounteous as ever. The contrast was striking; and it recurs not the less strongly to memory now, from the reflection that the polished taste, the fine fancy, and the gentle courtesy, of the distinguished orator and statesman whose remarks we then—a traveller from a distant land—listened to with so much delight—are numbered too among the things that were.

But we are wandering from the matter before us. These "Sketches" are by a master hand; they evince throughout high refinement, a quick and admirable perception of the beautiful in art and in nature, and a mind rich in knowledge and instruction. Venice with her lagoons, her Rialto, and her bridge of Sighs—is, materially speaking, the same now as when Beckford saw her; but her population, her commerce, her nobles, her wealth, and her crimes—how shrunk away! Hear of Venice as it then was:

August 2, 1780.—Our route to Venice lay winding about the variegated plains I had surveyed from Mosolente; and after dining at Treviso, we came in two hours and a half to Mestre, between grand villas and gardens peopled with statues. Embarking our baggage at the last-mentioned place, we stepped into a gondola, whose every motion was very agreeable, after the jolts of a chaise. We were soon out of the canal of the Mestre, terminated by an isle which contains a cell dedicated to the Holy Virgin, peeping out of a thicket, whence spire up two tall cypresses. Its bells tingled as we passed along and dropped some paolis into a net tied at the end of a pole stretched out to us for that purpose.

As soon as we had doubled the cape of this diminutive island, an expanse of sea opened to our view, the domes and towers of Venice rising from its bosom. Now we began to distinguish Murano, St. Michele, St. Georgio in Alga, and several other islands, detached from the grand cluster, which I hailed as old acquaintances; innumerable prints and drawings having long since made their shapes familiar. Still gliding forward, we every moment distinguished some new church or palace in the city, suffused with the rays of the setting sun, and reflected with all their glow of coloring from the surface of the waters.

The air was calm; the sky cloudless; a faint wind just breathing upon the deep, lightly bore its surface against the steps of a chapel in the island of San Secondo, and waved the veil before its portal, as we rode by and coasted the walls of its garden overhung with fig-trees and surmounted by spreading pines. The convent discovered itself through their branches, built in a style somewhat Morisco, and level with the sea, except where the garden intervenes.

We were now drawing very near the city, and a confused hum began to interrupt the evening stillness; gondolas were continually passing and repassing, and the entrance of the Canal Reggio, with all its stir and bustle, lay before us. Our gondoliers turned with much address through a crowd of boats and barges that blocked up the way, and rowed smoothly by the side of a broad pavement, covered with people in all dresses, and of all nations.

Leaving the Palazzo Pesaro, a noble structure with two rows of arcades and a superb rustic behind, we were soon landed before the Leon Bianco, which being situated in one of the broadest parts of the grand canal, commands a most striking assemblage of buildings. I have no terms to describe the variety of pillars, of pediments, of mouldings, and cornices, some Grecian, others Saracenic, that adorn these edifices, of which the pencil of Canaletti conveys so perfect an idea as to render all verbal description superfluous. At one end of this grand scene of perspective appears the Rialto; the sweep of the canal conceals the other.

The rooms of our hotel are spacious and cheerful; a lofty hall, or rather gallery, painted with grotesque in a very good style, perfectly clean, floored with a marbled stucco, divides the house, and admits a refreshing current of air. Several windows near the ceiling look into this vast apartment, which serves in lieu of a court, and is rendered perfectly luminous by a glazed arcade, thrown open to catch breezes. Through it I passed to a balcony which impends over the canal, and is twined round with plants forming a green festoon springing from two large vases of orange trees placed at each end. Here I established myself to enjoy the cool, and observe, as well as the dusk would permit, the variety of figures shooting by in their gondolas.

As night approached, innumerable tapers glimmered through the awnings before the windows.—Every boat had its lantern, and the gondolas moving rapidly along were followed by tracks of light, which gleamed and played upon the waters. I was gazing at these dancing fires when the sounds of music were wafted along the canals, and as they grew louder and louder, an illuminated barge, filled with musicians, issued from the Rialto, and stopping under one of the palaces, began a serenade, which stilled every clamor and suspended all conversation in the galleries and porticos; till, rowing slowly away, it was heard no more. The gondoliers catching the air, imitated its cadences, and were answered by others at a distance, whose voices, echoed by the arch of the bridge, acquired a plaintive and interesting tone. I retired to rest, full of the sound; and long after I was asleep, the melody seemed to vibrate in my ear.

August 3.—It was not five oclock before I was aroused by a loud din of voices and splashing of water under my balcony. Looking out, I beheld the grand canal so entirely covered with fruits and vegetables, on rafts and in barges, that I could scarcely distinguish a wave. Loads of grapes, peaches, and melons, arrived, and disappeared in an instant, for every vessel was in motion; and the crowds of purchasers hurrying from boat to boat, formed a very lively picture. Amongst the multitudes, I remarked a good many whose dress and carriage announced something above the common rank; and upon inquiry I found they were noble Venitians, just come from their casinos, and met to refresh themselves with fruit, before they retired to sleep for the day.

Whilst I was observing them, the sun began to color the balustrades of the palaces, and the pure exhilerating air of the morning drawing me abroad, I procured a gondola, laid in my provision of bread and grapes, and was rowed under the Rialto, down the grand canal to the marble steps of S. Maria della Salute, erected by the senate in performance of a vow to the Holy Virgin, who begged off a terrible pestilence in 1630. The great bronze portal opened whilst I was standing on the steps which lead to it, and discovered the interior of the dome, where I expatiated in solitude; no mortal appearing except an old priest who trimmed the lamps and muttered a prayer before the high altar, still wrapped in shadows. The sun-beams began to strike against the windows of the cupola, just as I left the church and was wafted across the waves to the spacious platform in front of St. Giorgio Maggiore, one of the most celebrated works of Palladio.

When my first transport was a little subsided, and I had examined the graceful design of each particular ornament, and united the just proportion and grand effect of the whole in my mind, I planted my umbrella on the margin of the sea, and viewed at my leisure the vast range of palaces, of porticos, of towers, opening on every side and extending out of sight. The doge's palace and the tall columns at the entrance of the place of St. Mark, form, together with the arcades of the public library, the lofty Campanile and the cupolas of the ducal church, one of the most striking groups of buildings that art can boast of.—To behold at one glance these stately fabrics, so illustrious in the records of former ages, before which, in the flourishing times of the republic, so many valiant chiefs and princes, have landed, loaded with oriental spoils, was a spectacle I had long and ardently desired. I thought of the days of Fredrick Barborossa, when looking up the piazza of St. Mark, along which he marched in solemn procession, to cast himself at the feet of Alexander the Third, and pay a tardy homage to St. Peter's successor. Here were no longer those splendid fleets that attended his progress; one solitary galeass was all I beheld, anchored opposite the palace of the doge, and surrounded by crowds of gondolas, whose sable hues contrasted strongly with its vermillion oars and shining ornaments. A party colored multitude was continually shifting from one side of the piazza to the other; whilst senators and magistrates in long black robes were already arriving to fill their respective offices.

I contemplated the busy scene from my peaceful platform, where nothing stirred but aged devotees creeping to their devotions, and, whilst I remained thus calm and tranquil, heard the distant buzz of the town. Fortunately some length of waves rolled between me and its tumults; so that I ate my grapes, and read Metastasio, undisturbed by officiousness or curiosity. When the sun became too powerful, I entered the nave.

The second volume relates to Portugal and Spain; and is not less striking than the first. Beckford's delight in the beauties of Cintra on this occasion, led him to his subsequent residence there.

Visits and Sketches at Home and Abroad, &c. &c.; by Mrs. Jameson, author of the Characteristics of Women, &c., 2 vols. New York, *Harper & Brothers*.—The Diary of an Ennuyée,—which by the-by is republished in the second of these volumes,—was so well received by the public, though ushered forth and running its race of popularity anonimously, that Mrs. Jameson would have had no excuse, even if she had so desired, for refraining from further literary efforts. In the *Characteristics of Women*, which combine so much force of criticism, with so much delicacy of feeling and of taste, she well repaid and justified the favorable opinion which her anonymous work had called forth: and these Sketches will sustain the ordeal—not a light one,—of being tried, by what she has done before.

They are the result of a visit to Germany, not with any view to write a book, but really, as is explained in the prefatory notice, the enlarging and throwing into a sort of dramatic form, by introducing dialogues and interlocuters, the casual notes made for her own satisfaction during the tour. The spirit in which they are written seems to us upright and fair, and the style renders them very attractive.

We introduce our Ennuyée, not by any means *ennuyante*, talking of *Schlegel* and *Madame de Stael*.

Alad.—Instead of embarking in the steamboat we posted along the left bank of the Rhine, spending a few days at Bonn, at Godesberg, and at Ehrenbreitstein; but I should tell you, as you allow me to diverge, that on my second journey I owed much to a residence of some weeks at Bonn. There I became acquainted with the celebrated Schlegel, or I should rather say, M. le Chevalier de Schlegel, for I believe his titles and his "starry honors" are not indifferent to him; and in truth he wears them very gracefully. I was rather surprized to find in this sublime and eloquent critic, this awful scholar, whose comprehensive mind has grasped the whole universe of art, a most agreeable, lively, social being. Of the judgments passed on him in his own country I know little and understand less; I am not deep in German literary polemics. To me he was the author of the lectures on "Dramatic Literature, and the translator of Shakspeare, and, moreover, all that was amiable and polite: and was not this enough?

Medon.—Enough for you, certainly; but I believe that at this time Schlegel would rather found his fame on being one of the greatest oriental critics of the age, than on being the interpreter of the beauties of Calderon and Shakspeare.

Alda.—I believe so; but for my own part, I would rather hear him talk of Romeo and Juliet, and of Madame de Stael, that of Ramayana, the Bhagvat-Oita, or even the "eastern Con-fut-zee."—This, of course, is only a proof of my own ignorance. Conversation may be compared to a lyre with seven chords—philosophy, art, poetry, politics, love, scandal, and the weather. There are some professors who, like Paganini, "can discourse most eloquent music" upon one string only; and some who can grasp the whole instrument, and with a master's hand sound it from the top to the bottom of its compass. Now, Schlegel is one of the latter: he can thunder in the bass or caper in the treble; he can be a whole concert in himself. No man can trifle like him, nor, like him, blend in a few hours' converse the critic, philologist, poet, philosopher, and man of the world—no man narrates more gracefully, nor more happily illustrates a casual thought. He told me many interesting things. "Do you know" said he one morning, as I was looking at a beautiful edition of Corinne, bound in red morocco, the gift of Madame de Stael, "do you know that I figure in that book?" I asked eagerly in what character? He bade me

guess. I guessed, playfully, the Counte d'Erfeuit. "No! no!" said he, laughing, "I am immortalized in the Prince Castle-Forte, the faithful, humble, unaspiring friend of Corinne."

MEDON.—To any man but Schlegel such an immortality were worth a life. Nay, there is no man, though his fame extended to the ends of the earth, whom the pen of Madame de Stael could not honor.

ALDA.—He seemed to think so, and I liked him for the self complacency with which he twined her little myrtle leaf with his own palmy honors. Nor did he once refer to what I believe everybody knows, her obligations to him in her De l'Allemagne.

MEDON.—Apropos—do tell me what is the general opinion of that book among the Germans themselves.

ALDA.—I think they do not judge it fairly. Some speak of it as eloquent, but superficial; others denounce it altogether as a work full of mistakes, and flippant, presumptuous criticism: others again affect to speak of it, and even of Madame de Stael herself, as thing of another era, quite gone by and forgotten; this appeared to me too ridiculous. They forget, or do not know, that *we* know, that her De l'Allemagne was the first book which awakened in France and England a lively and general interest in German art and literature. It is now five-and-twenty years since it was published. The march of opinion, and criticism, and knowledge of every kind has been so rapid, that much has become old which then was new; but this does not detract from its merits. Once or twice I tried to convince my German friends that they were exceedingly ungrateful in abusing Madame de Stael, but it was all in vain: so I sat swelling with indignation to hear my idol traduced, and called—O profanation!—"*cette Stael.*"

MEDON.—But do you think the Germans could at all appreciate or understand such a phenomenon as Madam de Stael must have appeared in those days? She whisked through their skies like a meteor before they could bring the telescope of their wits to a right focus for observation. How she must have made them open their eyes!—and see in the correspondence between Goethe and Schiller what *they* thought of her.

ALDA.—Yes, I know that with her lively egotism and Parisian volubility, she stunned Schiller and teased Goethe; but while our estimate of manner is relative, our estimate of character should be positive. Madame de Stael was in manner the French woman, accustomed to be the cynosure of a salon, but she was not ridiculous or egoïste in character.—She was, to use Schlegel's expression, "femme grande et magnanimie jusque dans les replis de son âme." The best proof is the very spirit in which she viewed Germany, in spite of all her natural and national prejudices. To apply to your own expression, she went forth in the spirit of peace, and brought back, not only an olive leaf, but a whole tree, and it has flourished. She had a universal mind. I believe she never thought, and still less *made* any one ridiculous in her life.

We present next an educated woman herself, expressing her opinion of the German women.

MEDON.—You said, the other night, that you had not formed any opinion as to the moral and social position of the women of Germany; but you must have brought away some general impressions of manner and character;—frankly, were they favorable or unfavorable?

ALDA.—Frankly, they were most favorable. Remember that I am not prepared with any general sweeping conclusions: I cannot assure you, from my own knowledge, that among my own sex the proportion of virtue and happiness is greater in Germany than in England. On the contrary—

> ——— In every land
> I saw, wherever light illumineth,
> Beauty and anguish walking hand in hand,
> The downward slope to death.
> In every land I thought that, more or less,
> The stronger, sterner nature overbore
> The softer, uncontroll'd by gentleness,
> And selfish evermore!

—Why do you smile?

MEDON.—You amuse me with the perseverance with which you ring the changes on your favorite text, in prose and in verse; and yet to adopt Voltaire's witty metaphor, *we* are the hammers and *you* the anvils all the world over. But is that all? You need not have gone to Germany to verify that!

ALDA.—No, sir; it is not *all*. In the first place, you know I have a sufficient contempt for our English intolerance with regard to manners—

MEDON.—Why, yes; with reason. The influence of mere *manners* among our fashionable people, and the stress laid upon it as a distinction, have become so vulgarized and abused, that I should be relieved even by a reaction which should throw us out of the insipidity of conventional manners into primeval rudeness.

ALDA.—No, no, no!—no extremes; but though so sensible to the ridicule of referring the social habits, opinions, customs of other nations, to the arbitrary standard of our own, still I could not help falling into comparisons; certain distinctions between the German and the English women struck me involuntarily. In the highest circles a stranger finds society much alike every where. A court ball—the *soirée* of an ambassadress—a minister's dinner—present nearly the same physiognomy. It is in the second class of society, which is also every where, and in every sense, the best, that we behold the stamp of national character. I was not condemned to see my German friends always *en grande toilette*: I had better opportunities of judging and appreciating their domestic habits and manners than most travellers enjoy.

I thought the German women of a certain rank more *natural* than we are. The moral education of an English girl, is, for the most part, *negative*; the whole system of duty is thus presented to the mind. It is not "this you must do," but always "you must not do this—you must not say that—you must not think so:" and if by some hardy, expanding nature the question be ventured, "Why?—the mamma or the governess is ready with the answer—"It is not the custom—it is not lady-like—it is ridiculous!"—But is it wrong?—why is it wrong?—and then comes answer, pat—"My dear, you must not argue—young ladies never argue."—"But, mamma, I was thinking—"—"My dear, you must not think—go write your Italian exercise;" and so on! The idea that certain passions, powers, tempers, feelings, interwoven with our being by our almighty and all-wise Creator, are to be put down by the fiat of a governess, or the edict of fashion, is monstrous.—Those who educate us imagine that they have done every thing, if they have silenced controversy, if they have suppressed all external demonstration of an excess of temper or feeling; not knowing, or not reflecting, that unless our nature be self-governed and self directed by an appeal to those higher faculties which link us immediately with what is divine, their labor is lost

Now, in Germany, the women are less educated to suit some particular fashion; the cultivation of the intellect, and the forming of the manners, do not so generally supercede the training of the moral sentiments—the affections—the impulses; the latter are not so habitually crushed or disguised; consequen ly the women appeared to me more natural, and to have more individual character.

MEDON.—But the English women pique themselves on being natural; at least they have the word continually in their mouths. Do you know that I once overheard a well-meaning mother instructing her daughter how to be natural? You laugh, but I assure you it is a simple fact. Now, I really do not object to natural insipidity, but I do object to conventional insipidity; I object to a rule of elegance which makes the negative the test of the natural. It seems hard that those who have hearts and souls must needs put them into a strait-waistcoat, in order to oblige those who choose to have none; and be guilty of the grossest affectation, to escape the imputation of being affected!

ALDA.—I think there is less of this among the Germans; more of the individual character is brought into the daily intercourse of society—more of the poetry of existence is brought to bear on the common realities of life. I saw a freshness of feeling—a genuine (not a taught) simplicity, which charmed me. Sometimes I have seen affectation, but it amused me; it consisted in the exaggeration of what is in itself good, not in the mean renunciation of our individuality—the immolation of our soul's truth to a mere fashion of behaviour. As Rechefoucald called hypocrisy, (that last extreme of wickedness,) "*the homage which vice pays to virtue;*" so the *nature de convention*, that last and worst excess of affectation, is the homage which the artificial pays to the natural.

The German women are much more engrossed by the cares of housekeeping than women of a similar rank of life in England. They carry this too far in many instances, as we do the opposite extreme. In England, with our false, conventional refinement, we attach an idea of vulgarity to certain cares and duties in which there is nothing vulgar. To see the young and beautiful daughter of a lady of rank running about, busied in household matters, with the keys of the wine-cellar and the store-room suspended to her sash, would certainly surprise a young Englishwoman, who, meantime, is netting a purse, painting a rose, or warbling some "Dolce mio Bene," or "Soavi Palpiti," with the air of a nun at penance. The description of Werter's Charlotte, cutting bread and butter, has been an eternal subject of laughter among the English, among whom fine sentiment must be garnished out with something finer than itself; and no princess can be suffered to go mad, or even be in love, except in white satin. To any one who has lived in Germany, the union of sentiment and bread and butter, or of poetry with household cares, excites no laughter. The wife of a state minister once excused herself from going with me to a picture gallery, because on that day she was obliged to reckon up the household linen; she was one of the most charming, truly elegant, and accomplished women I ever met with. At another time, I remember that a very accomplished woman, who had herself figured in a court, could not do something or other—I forget what—because it was the "grosse wasche" (the great wash;) an event by-the-way, which I often found very mal-apropos, and which never failed to turn a German household upside-down. You must remember that I am not speaking of tradesmen and mechanics, but of people of my own, or even a superior, rank of life. It is true that I met with cases in which the women had, without necessity, sunk into mere domestic drudges—women whose souls were in their kitchen and their household stuff—whose talk was of dishes and of condiments; but then the same species of women in England would have been, instead of busy with the idea of being useful, frivolous and silly, without any idea at all.

MEDON.—And whether a woman put her soul into an apple tart or a new bonnet signifies little, if there be no capacity there for any thing better. I hate mere fine ladies; but equally avoid those who seem born to "suckle fools and chronicle small beer." The accomplishments which embellish social life—the cultivation which raises you to a companionship with men—I cannot spare these to make mere nurses and housewives, as I conceive the generality of German aim to be, and which I have been told the opinions of the men approve.

ALDA.—As to what we term accomplishments, there was certainly much less exhibition and parade of them in society; they formed less an established and necessary part of education than with us; but, of really accomplished, well-informed women, believe me, I found no deficiency: if the inclination or the talent existed, means and opportunity were not wanting for mental culture of a very high species. I met with fewer women who drew badly, sang tolerbly, or rather intolerably, scratched the harp, and quoted Metastasio; but I met with quite as many women who, without pretension, were finished musicians, painted like artists, possessed an extensive acquaintance with their own literature, and an uncommon knowledge of languages; and were, besides, very good housewives after the German fashion. More or less acquainted with the French language, was a matter of course, but English was preferred: every where I met with women who had cultivated with success, not our language merely, but our literature. Shakspeare, whether studied in English or in some of their excellent translations, I found to be a species of household god, whose very name was breathed with reverence, as if it were that of a supernatural being. Lord Byron, and Sir Walter Scott, and Campbell are familiar names.

At the close of the first volume is a charming paper on Fanny Kemble. The first part of it was intended to accompany sketches taken of her in various scenes in Juliet by I. Hayter, and then designed for publication. They have not however been published; but the notes, critical and explanatory, are here given, with some additional remarks of more recent origin.

SUMMARY.

American Academy of Arts, Barclay st.—There has been recently opened at the above establishment, an exhibition of considerable merit and novelty from the peculiar manner in which the paintings are exhibited. They consist of five views, as follows: 1st, The Interior of Trinity Chapel in Canterbury Cathedral, is a true specimen of Saxon Gothic Architecture; and having been built about 1300 years, has a certain claim to our admiration from its antiquity; and the exquisite manner in which it is painted: the long line of perspective, the transparent windows of stained glass, and its round columns, all conspire to

give this picture an air of perfect reality and illusion. 2d, The Painting of Captain Ross's Interview with the natives at the North Pole, conveys a perfect idea of the barrenness of that inhospitable climate and the singular appearance of the inhabitants of those frozen regions, painted from Capt. Ross's own drawings and under his own superintendence. 3d, The View of London is exceedingly minute in its detail, showing all the public Buildings, Churches and Bridges, &c., and to the inhabitants of this city highly interesting. 4th, The Destruction of the Temple and City of Jerusalem by that celebrated artist, Mr. West, is one of the many splended Illustrations ot Scripture History which he designed. 5th, The Kent India man on Fire, is one of those dreadfully appalling spectacles which happily do not often occur; but the artist has truly depicted it, and to us as a maritime people is a matter of peculiar attraction. In addition to the Paintings, there are four figures dressed in suits of ancient armor, one of which is 700 years old, of exceeding curious and rare workmanship and mechanism. Taking the exhibition as a whole it deserves extensive patronage.

Mr. Eugene Robertson's Exhibition at the Euterpian Hall, continues to attract, as we hear, many visiters.

It is one of optical illusions chiefly—Washington, Napoleon, and Lafayette, are evoked, the influence of dreams is typified, and strange and unearthly visions are, as it were, embodied.

The Exhibition will soon close, and those, therefore, desirous of seeing such sights, should improve the opportunity.

Burning of the Steamboat Cygnet.—On Tuesday night, at about 12 o'clock, the Steamboat Cygnet, lying at Janney's wharf in this town, was discovered to be on fire. The alarm was immediately given; but in a very short time the boat was completely enveloped in fire, and it was found impossible to save her. She burned to the water's edge.—[Alexandria Phenix.]

[*From the Pittsburg Advocate of Monday last.*]

Dreadful Explosion and loss of life.—This morning about 5 o'clock, intelligence was brought to us of the explosion of the boilers of the Eagle Cotton Factory, in the borough of Allegheny, owned by Messrs Arbuele & Avery. Hastening to the scene of calamity, never did we look upon a spectacle so full of horror. The extensive building is almost an entire ruin, a mass of stones, brick and rubbish. The building, and much of the costly and extensive machinery are utterly lost and destroyed; but the loss of the property is small compared with the loss of life, and the agony and misery which have resulted. So far as we could gather the circumstances, they are these. The boilers had been suffered through neglect or inattention to become heated before the water was let into them, which caused the heads to be blown out—and the concussion was so great that they rose from their beds, and passing out of the engine house, overturned a small office attached to the buildings, and were finally arrested by a large board pile in the rear of the building, which it completely shivered to pieces.—A machinist, James Marlatt, a Frenchman, was killed instantaneously, and the First Engineer, Alexander Morrow, so badly scalded as to leave no hopes of his recovery. Two boys, named James Heming and —— Dodd, are missing, supposed to be lying dead amongst the rubbish, which is now being removed Another boy killed, name not recollected. Three young women at work in the factory were very badly wounded, all of them having limbs broken.

It was a fortunate circumstance that the explosion occurred at an earlier hour than that at which most of the hands are accustomed to be at work—had it been an hour later, the disaster would have been very great; as it is, the extent of injury is not yet known, as several are missing, of whom it is not known whether they were on duty or not.

Commercial Bank of Buffalo.—This new institution, P. A. Barker, Esq. President, and Hamlet Scrantum, Esq. Cashier, has commenced operations. The new banking house is a splendid building, and all things are arranged in good taste.

New Orleans, September 29.—We have been informed by a gentleman who arrived yesterday from Natchez, that the Steamer Friend has been sunk by the Tom Jefferson running into her. Our informant was unable to give us the particulars.

The drought of the past summer had depressed many of the rivers to a lower point than has been known for many years past. The Susquehanna, at Harrisburg, has been three inches below the lowest water mark heretofore made—that is, in 1803,—The Ohio, at Cincinnati, was within six or eight inches of being as low as ever it was known to be

Cincinnati, Ohio, Sept. 28, 1834.—John Randolph once remarked on the floor of Congress, that "the Ohio River was frozen up one half the year, and dried up the other." This is not true; but the latter part of the assertion comes nearer the truth at this time, than for many years past. I think I have never seen the Ohio lower than at this time. It is said to be within six or eight inches as low as it has ever been known to be. At the time of the "flood" in February, 1832, the waters were some *sixty-five feet higher than at this time;* all the lower part of the city was inundated—that was the highest rise, in the memory of our oldest inhabitants, or on record.—Correspondence of the Baltimore Patriot.]

New Post Office.—A Post Office has been established at Hallet's Cove, L. I. to which a mail is sent from this city, every day except Sunday.

Sumatra.—The bark Alasco has arrived at Boston from Sumatra, whence she sailed on the 27th May. Her commander, Capt. Briggs, states that of all the American vessels on the coast, two or three only would be able to obtain cargoes, the crop of pepper this season being short of the usual quantity, and the English ships having carried away more than their usual proportion.—[Courier.]

Norfolk (Va.) Friday, 10th.—*Fire.*—The large wooden dwelling douse at the "Sycamores," was destroyed by fire this morning, between one and two o'clock. We have not learned the particulars. It was owned by Mr. Jonathan Bonney, and occupied by Mr. R. Doye, as a public house. We are informed that it was insured.

The North Star published at Whitehall says:

"The Collector at Champlain, (Gen. Thurber,) has been held to bail, in the sum of $60,000, by virtue of a writ issued against him at Washington. The charges set forth are, *converting the public property to his own use.*

[*From the Churchman.*]

Consecration of the French Church.—The beautiful and costly edifice recently erected at the intersection of Franklin and Church streets, for the French Protestant Episcopal Church Du St. Esprit was consecrated by the Right Rev. B. T. Onderdonk, D. D., Bishop of the Diocese of New York, on Thursday the 9th instant.

The instrument of donation was presented to the Bishop by John Pintard, Esq., and was read by the Rev. Antoine Verren, Rector of the Church, and a translation of it was read by the Rev. F. L. Hawks, D. D., Rector of St. Thomas' Church, New York.—The sentence of consecration was read by the Rev. James Milnor, D. D., Rector of St. George's Church New York, and a translation of it by the Rector of the Church Du St. Esprit. Divine service was performed in the French language by the Rev. R. A. Henderson, Minister of the Swedish Churches in Pennsylvania, the lessons being read by the Rev. L. P. Bayard, Rector of St. Clement's Church New York. The sermon was preached also in the French languague by the Rector of the Church.

The entire services were altogether satisfactory to a highly respectable and very numerous assemblage of hearers, and afforded a happy proof of the adaptation of our Liturgy to foreign languages, and of its peculiar impressiveness in the French language. The building, whose beauty harmonizes with the sublimity of the service for which it is intended, presents a pleasing proof of the regard of the present congregation for the memory and the language of their pious ancestors, and together they afford to a numerous and respectable class of residents and sojourners, in this "*city of strangers,*" a means of "*hearing in their own tongue the wonderful works of God.*"

Steamboat Monroe.—The new and elegant boat Monroe, Capt. Whittaker, from Monroe, M. T., came into our harbor on Wednesday last. She is decidedly one of the best models and neatly arranged boats on the lake, exhibiting great economy of room, and a simplicity and elegance of taste in her fixtures highly creditable to owners and builders; and furnishing another specimen of the growth and prosperity of the pretty town whose name she bears, and where she was built. She is 145 feet from stem to stern, 9 feet 9 inches hold, breadth of beam 26 feet. She has 23 berths in her gent's cabin, 20 in her ladies' cabin and state rooms; 51 in her forward cabin, and 20 steerage, being 104 cabin berths furnished. She is propelled by a superior high pressure engine, built at Detroit, by Thomas Moore, and is to ply between this port and Detroit; Barker & Holt, agents.—[Buffalo Journal.]

Lobsters.—We have omitted to notice the fact that we some days since dined with our host of the Eagle Tavern, on fresh lobsters. They were presented by Capt. Hebbard, of the steamboat Victory, who brought several from New York, in fine order, alive and kicking, and as good as any we have eat. This proves the fact that this delicious shell fish may be furnished in our market without difficulty. —[Buffalo Journal.]

Mexico.—The New Orleans mail brings advices 10 days later from Mexico than we had before received. The Convoy of specie had arrived safely at Vera Cruz, with upwards of three millions of dollars, of which about $600,000 was embarking on board the packet ship Congress, and brig Baron, both for this port; the former was to sail between the 18th and 20th uit., and the latter on the 15th. The country was quiet; and business in the interior reviving.

Melancholy Shipwreck.—*Seventeen lives lost.*—We learn from the Eastport Sentinel of the 8th inst. that the schr. *Sarah*, Capt. Thomas Pearce, on her passage from Boston to that port, was wrecked on the 2d inst., during a gale and thick fog on the Machias Seal Island, and that seventeen of the persons on board perished. Much anxiety had existed at Eastport for several days in consequence of the non-arrival of the vessel. In the meantime news of her sailing from Boston, the names of the passengers on board, and reports of parts of the wreck having been seen, reached Eastport, and caused the greatest anguish among the friends of the unfortunate sufferers. On the evening of the 2d, (says the Sentinel,) the Pilot-Boat No. 2, Capt. Connelly, arrived with the survivors, six in number. Peter Goulding, Esq. of Perry, a Mr. Jeffries, of New-Brunswick, the stewardess, and three seamen—all others, seventeen in number, perished! These were Captain Pearce and son, Mr. John Swett, the mate, Mr. Ebenezer Starboard, and Joseph S. Cony, of this town,—a son of Hon. J. C. Talbot, of East Machias, Mr. William Fowler, and Mr. Featherstenaugh, of Lubec, Mr. Wiggins, and a Mr. Smith, of St. John, Mr. Darling of St. Stephens, a seaman, two forward passengers, the cook, and two others, whose names are unknown.

And now, what an awful visitation of God is here! Four husbands and fathers gone forever! and at a moment, when those who knew them best and loved them most, waited to hear the long expected words —"the Sarah is coming!"—Four widows—and ten fatherless children here—perhaps as many more elsewhere! and bleeding hearts—these—these who shall number?

The bodies of Messrs. Talbot, Smith & Fowler, and of the cook, were found,—that of Mr. Fowler was bro't to Lubec—the others were buried upon Seal Island. Those of the crew saved, are John Boole, of Shelburne, N. S., George Kirkas, and George Stowell, both Englishmen. Of those lost, whose names are not given, we learn that two of the forward passengers were seamen belonging to the brig Elizabeth, Barty, of St. John, discharged in Boston, that the seaman was Robert Dyer, of Pleasant River, and that the cook's name was Collins Warwick, and that he belonged to Nova Scotia.

We learn also, that on Friday, three schooners and a brig were off the Seal Islands, picking up goods, and that signals of distress were made from the Lighthouse, which they must have seen, but to which they paid no attention. May those who controlled their movements, never have the mercy measured to them, that it seems they measured to the survivors of the Sarah! The Sarah's cargo was valuable and belonged mostly to the merchants in this town. Mr. Fowler, of Lubec, and Mr. Goulding, of Perry, however, had considerable, the latter about $1100, no insurance. The amount insured by others, is unknown, but it is presumed less than half the value was covered.

Mr. Goulding and the Stewardess floated ashore upon the quarter deck. The seamen who were saved, jumped from the bows. Mr. Goulding was badly bruised.

Bills of indictment have been found against Mathias, *alias* Matthews, the pretended prophet, for obtaining money on false pretences. He will be arraigned this day, but probably not brought to trial unless he demands it, until the next General Sessions

SAMUEL TAYLOR COLERIDGE.

By the English Opium Eater.

In the number of "Tate's Edinburgh Magazine," just published, there is an article on Mr. Coleridge, with the title which we have quoted, and from that we make the following extracts. The first describes the commencement of the accquaintance.

"I had received directions for finding out the house where Coleridge was visiting; and, in riding down a main street of Bridgewater, I noticed a gateway corresponding to the description given me. Under this was standing, and gazing about him, a man whom I shall describe. In height he might seem to be about five feet eight (he was, in reality, about an inch and a half taller, but his figure was of an order which drowns the height); his person was broad and full, and tended even to corpulence; his complexion was fair, though not what painters technically style fair, because it was associated with black hair; his eyes were large and soft in their expression; and it was from the peculiar appearance of haze or dreaminess which mixed with their light, that I recognized my object. This was Coleridge. I examined him steadily for a minute or more; and it struck me that he saw neither myself nor any other object in the street. He was in a deep reverie; for I had dismounted, made two or three trifling arrangements at an inn door, and advanced close to him, before he had apparently become conscious of my presence. The sound of my voice, announcing my own name, first awoke him; he started, and for a moment seemed at a loss to understand my purpose or his own situation; for he repeated rapidly a number of words which had no relation to either of us. There was no *mauvaise honte* in his manner, but simple perplexity, and an apparent difficulty in recovering his position amongst day-light realities. This little scene over, he received me with a kindness of manner so marked that it might be called gracious. * *

Coleridge led me to a drawing-room, rang the bell for refreshments, and omitted no point of a courteous reception. He told me that there would be a very large dinner party on that day, which might perhaps be disagreeable to a perfect stranger; but, if not, he could assure me of a most hospitable welcome from the family. I was too anxious to see him under all aspects, to think of declining this invitation. And these little points of business being settled, Coleridge, like some great river, the Orellana, or the St. Lawrence, that had been checked and fretted by rocks or thwarting islands, and suddenly recovers its volume of waters, and its mighty music—swept at once, as if returning to his natural business, into a continuous strain of eloquent dissertation, certainly the most novel, the most finely illustrated, and traversing the most spacious fields of thought, by transitions the most just and logical, that it was possible to conceive. * *

"For about three hours he had continued to talk, and in the course of this performance he had delivered many most striking aphorisms, embalming more weight of truth, and separately more deserving to be themselves embalmed, than any that are on record. In the midst of our conversation, if that can be called conversation which I so seldom sought to interrupt, and which did not often leave openings for contribution, the door opened and a lady entered. She was in person full, and rather below the common height; whilst her face showed, to my eye, some prettiness of rather a commonplace order. Coleridge turned, upon her entrance; his features, however, announced no particular complacency, and did not relax into a smile. In a frigid tone he said, whilst turning to me, "Mrs. Coleridge:" in some slight way he then presented me to her. I bowed; and the lady almost immediately retired. From this short but ungenial scene, I gathered, what I afterwards learned redundantly, that Coleridge's marriage had not been a very happy one. * * *

"The gloom, however, and the weight of dejection which sat upon Coleridge's countenance and deportment, at this time, could not be accounted for by a disappointment (if such it were) to which time must, long ago, have reconciled him. Mrs. Coleridge, if not turning to him the more amiable aspects of her character, was, at any rate, a respectable partner. And the season of youth was now passed. They had been married about ten years; had had four children, of whom three survived; and the interests of a father were now replacing those of a husband. Yet never had I beheld so profound an expression of cheerless despondency. And the restless activity of Coleridge's mind in chasing abstract truths, and burying himself in the dark places of human speculation, seemed to me, in a great measure, an attempt to escape out of his own personal wretchedness. At dinner, when a very numerous party had assembled, he knew that he was expected to talk, and exerted himself to meet the expectation. But he was evidently struggling with gloomy thoughts that prompted him to silence, and perhaps to solitude; he talked with effort, and passively resigned himself to the repeated misrepresentations of several amongst his hearers.—It must be to this period of Coleridge's life that Wordsworth refers in those exquisite 'Lines written in my pocket copy of the Castle of Indolence.' The passage which I mean comes after a description of Coleridge's countenance, and begins in some such terms as these:—

> 'A piteous sight it was to see this man,
> When he came back to us, a wither'd flow'r,' &c.

Withered he was, indeed, and, to all appearance, blighted. At night he entered into a spontaneous explanation of this unhappy overclouding of his life, on occasion of my saying accidentally that a toothache had obliged me to take a few drops of laudanum. At what time or on what motive he had commenced the use of opium, he did not say; but the peculiar emphasis of horror with which he warned me against forming a habit of the same kind, impressed upon my mind a feeling that he never hoped to liberate himself from the bondage." * *

"The fine saying of Addison is familiar to most readers—that Babylon in ruins is not so affecting a spectacle, or so solemn, as a human mind overthrown by lunacy. How much more awful, then, and more magnificent a wreck, when a mind so regal as that of Coleridge is overthrown, or threatened with overthrow, not by a visitation of Providence, but by the treachery of his own will, and the conspiracy as it were of himself against himself! Was it possible that this ruin had been caused or hurried forward by the dismal degradations of pecuniary difficulties? That was worth inquiring.—I will here mention briefly that I *did* inquire two days after; and in consequence of what I heard. I contrived that a particular service should be tendered to Mr. Coleridge, a week after, through the hands of Mr. Cottle, of Bristol, which might have the effect of liberating his mind a year or two, and thus rendering his great powers disposable to their natural uses. That service was accepted by Coleridge. To save him any feelings of distress all names were concealed; but in a letter written by him, about fifteen years after this time, I found that he had become aware of all the circumstances, perhaps through some indiscretion of Mr. Cottle. A more important question I never ascertained: viz. whether this service had the effect of seriously lightening his mind. For some succeeding years he did certainly appear to me released from that load of despondency which oppressed him on my first introduction. Grave, indeed, he continued to be, and at times absorbed in gloom; nor did I ever see him in a state of perfectly natural cheerfulness. But as he strove in vain, for many years, to wean himself from his captivity to opium, a healthy state of spirits could not be much expected. Perhaps, indeed, where the liver and other organs had, for so large a period in life, been subject to a continual morbid stimulation, it may be impossible for the system ever to recover a natural action. Torpor, I suppose, must result from continued artificial excitement; and perhaps upon a scale of corresponding duration.—Life, in such a case, may not offer a field of sufficient extent for unthreading the fatal links that have been wound about the machinery of health, and have crippled its natural play." * * * *

Anecdote of Mr. Coleridge's Father.—"Dining in a large party one day, the modest divine was suddenly shocked by perceiving some part, as he conceived, of his own snowy shirt emerging from a part of his habiliments, which we shall suppose to have been his waistcoat. It was *not* that; but for decorum we shall so call it. The strayed portion of his supposed tunic was admonished of its errors by a forcible thrust back into its proper home; but still another *limbus* persisted to emerge, or seemed to persist, and still another, until the learned gentleman absolutely perspired with the labor of re-establishing order. And, after all, he saw with anguish, that some arrears of the snowy indecorum still remained to reduce into obedience. To this remnant of rebellion he was proceeding to apply himself—strangely confounded, however, at the obstinacy of the insurrection—when the mistress of the house, rising to lead away the ladies from the table, and all parties naturally rising with her, it became suddenly apparent to every eye, that the worthy Orientalist had been most laboriously stowing away, into the capacious receptacles of his own habiliments, the snowy folds of a lady's gown, belonging to his next neighbor; and so voluminously, that a very small portion of it, indeed, remained for the lady's own use; the natural consequence of which was, of course, that the lady appeared almost inextricably yoked to the learned theologian, and could not in any way effect her release, until after certain operations upon the Vicar's dress, and a continued refunding and rolling out of snowy mazes upon snowy mazes, in quantities which, at length, proved too much for the gravity of the company. Inextinguishable laughter arose from all parties, except the erring and unhappy doctor, who, in dire perplexity, continued still refunding with all his might, until he had paid up the last arrears of his long debt, and thus put an end to a case of distress more memorable to himself and his parishioners than any "*quale-quare-quidditive*" case that had ever perplexed his learning.

"In his childish days, and when he had become an orphan, S. T. Coleridge was removed to the heart of London, and placed on the great foundation of Christ's Hospital. He there found himself associated, as a school-fellow, with several boys destined to distinction in after life, and especially with one, who if not endowed with powers equally large and comprehensive, had, however, genius not less original or exquisite than his own—the inimitable Charles Lamb. But, in learning, Coleridge outstripped all competitors, and rose to be the Captain of the school. It is, indeed, a most memorable fact to be recorded of a boy, that, before completing his fifteenth year, he had translated the Greek Hymns of Sinesius into English Anacreonic verse. This was not a school-task, but a labor of love and choice; to appreciate which, it is necessary to recall the dark philosophy which constitutes the theme of Sinesius. Before leaving school, Coleridge had an opportunity of reading the sonnets of Bowles, which so powerfully impressed his poetic sensibility, that he made forty transcripts of them with his own pen, by way of presents to youthful friends. From Christ's Hospital, by the privilege of his station at school, he was transferred to Jesus College, Cambridge. It was here, no doubt, that his acquaintance began with the philosophic system of Hartley, for that eminent person had been a Jesus man. Frend, also, the mathematician, of heretical memory, belonged to that college, and was probably contemporary with Coleridge. What accident, or imprudence, carried him away from Cambridge before he had completed the usual period of study, or (I believe) taken his degree, I never heard. He had certainly won some distinction as a scholar, having obtained the prize for a Greek ode in Sapphic metre, of which the sentiments (as he observes himself,) were better than the Greek. Porson was accustomed, meanly enough, to ridicule the Greek *lexis* of this ode, which was to break a fly upon the wheel. The ode was clever enough for a boy; but to such skill in Greek as could have enabled him to compose with critical accuracy, Coleridge never made pretensions. He had, however, a far more philosophic insight into much of the structure of that language than Porson had, or could have comprehended. * * *

"Not very long after this, Coldridge became acquainted with the two Wedgwoods, both of whom, admiring his fine powers, subscribed to send him into North Germany, where, at the University of Gottingen, he completed his education according to his own scheme. The most celebrated Professor whose lectures he attended, was the far famed Blumenbach, of whom he continued to speak through life with almost filial reverence.

"Returning to England, he attended Mr. Thomas Wedgwood, as a friend, throughout the afflicting and anomalous illness which brought him to the grave. It was supposed by medical men that the cause of Mr. Wedgwood's continued misery was a stricture of some part in the intestines (the colon, it was believed.) The external symptoms were torpor and defective irritabiliiy, together with everlasting restlessness. By way of some relief to this latter symptom, Mr. Wedgwood purchased a travelling carriage, and wandering up and down England, taking Coleridge as his companion. And, as a desperate attempt to rouse and irritate the decaying sensibilty of his system, I have been assured by a surviving friend, that Mr. Wedgwood at one time opened a butcher's shop, conceiving that the affronts and disputes to which such a situation would expose him, might act beneficially upon his increasing torpor. This strange expedient served only to express the anguish which had now mastered his nature; it was soon abandoned; and this accomplished but miserable man soon sank under his sufferings.—What made the case more memorable was the combination of worldly prosperity which had settled upon this gentleman. He was rich, young, generally beloved, distinguished for his scientific attainments, publicly honored for patriotic services, and had before him, when he first fell ill, every prospect of a splendid and most useful career.

"By the death of Mr. Wedgwood, Coleridges ac-

ceeded to a regular annuity of 75*l.* which that gentleman had bequeathed to him. The other Mr. Wedgwood granted him an equal allowance. Now came his marriage, his connexion with politics and political journals, his residence in various parts of Somersetshire, and his consequent introduction to Mr. Wordsworth."

THE DREAM.

'Twas a dream," exclaimed young Blanch, starting from sleep upon the cold ground, where we bivouked, on the night before the storming of Badajos. And can man sleep sound, methinks I hear the reader ask, in such circumstances as these? Yes, if the mind and body be as they ought, the soldier on his clay couch on the battle eve, and the sailor cradled on the surge, and rocked by the storm, enjoy a repose which luxury never knew, and which monarchs sigh for in vain.

I was then lying close beside Blanch, but had been awake some time before him; and, by the light of a fire which we had kindled previous to repose, I had been watching the face of the fair boy as it expressed the passing emotions of his mind, when lapsing through the mysterious changes of his dream.

At first, his still pale features exhibited the blessed calm of a pure and peaceful sleep. Anon, they became gently moved, like the moonlight lake by the passing breath of night, and at length were gradually lighted up with a smile so celestial, that I could fancy his spirit was basking in the beams of heaven.

The night-flame played with its wavering glare upon his face, whose beauty thus broke forth in flitful gleams, even as the faces of departed friends come back upon our slumbers in glimpses from the grave.

The sight of the sleeping youth reminded me of that most exquisite of Campbell's lyrics, "The Soldier's Dream." "Happy boy," thought I, "while the young frame is lying on the cold clay, thy spirit hath a sweet reprieve from the horrors of war, and, is even now, perchance, far away in thy own land, where the smiles of friends, and the caresses of thy little sister, receive thee back to thy father's halls, where there is joy for thy return, and where thy mother is weeping thy welcome home."

My soliloquy was suddenly broken, for Blanch awakened with a start, and looking round him with a wild and forlorn gaze, sobbed out, "'Twas but a dream."

"It seems to have been a pleasant one, however, if I may judge from the regretful tone of your words on awakening," said I, not without a feeling of curiosity to know in what its happiness consisted.

"It was indeed," rejoined my friend, "but brief as it was blest—so it is soon told. I am now about that age when it is supposed we are most susceptible of the tender passion; yet I never have felt love for woman till this night, when such a being as seemed wanting to me in the waking world was given to me in sleep. Oh! she was so passing fair, and so seraph-like! Nay, smile not, because it was a dream. I, too, can smile at dreams, but in this instance, the form and features of the unknown were so distinctly delineated, and shadowed forth with such arbitrary truth, as never belonged to the formations of mere fancy, and can never be effaced from my brain. I do believe—nay, I feel certain, that such a being somewhere exists; and to see her with waking eyes, and find favor in her sight, I would willingly lay down my life."

I could not help smiling at this burst of boyish enthusiasm, and at what appeared to me the very mockery of imagination—by which the bewitched Blanch had become enamoured of the phantom of his own brain, and was incurably in love with a lady of a dream; but had I been the most incredulous and cruel interpretor of midnight mysteries, I could not have found in my heart to apply the rule of explaining by contraries these dark hints of the future, and boding ill to poor Blanch, because the vision of a beautiful girl had soothed his slumbers on the eve of storming a city—an event which took place on the following night.

Talk of war—that is, of war in the open field—where man meets man on an equality, where the chances of death are much alike, where valor may avail, and where there is something like fair play—but the storming of strong holds is unmasked murder—and the sack of cities the revelry of the furies. That of Badajos was a festival for fiends. The eternal foe himself—the immortal enemy of man, might have gloated over it, and smiled at his own fair work; and if ever laughter was heard in hell, it was surely on that night of horror.

Bastions and parapets bristled with *chevaux-de-frise* of sharp-pointed irons—bayonets—sword-blades; and every kind of dreadful obstruction, met our troops, as one by one they scaled walls of more than thirty feet high, and in succession were shot, bayoneted, and hurled back into the ditches below.

I have heard it said that Wellington himself appeared much agitated, as by the death-flames which illuminated the horrors of the night, he saw his troops foiled in their desperate and successive efforts against all superhuman obstacles—but that a lightning gleam of triumph flushed over his face, and an exclamation of "Thank God!" escaped him, when an aide-de-camp galloped up with this brief announcement—"My Lord, General Picton is in the castle with a thousand men."

I said he was enabled to see how matters went on by the death lights which illuminated the darkness—for, from beach and bastion, hand-grenades, blazing bombs, and all manner of combustibles, rolled down like a volcano torrent—while a tempest of shot and shell rung through the air, like the rushing of a mighty whirlwind—and when at length an entrance into the town was forced by our troops, over steel-hedged walls, and breaches vomiting floods of fire—mines ready to be sprung yawned beneath their trembling feet, and they swept along through the gloom, amid roaring of cannon, shouts of victory and vengeance, blast of bugles singing the charge, and shriek of the sacked city, all rending the midnight sky, like a chorus from hell.

The work of destruction was nearly over, when I found myself with a party of our men in one of the more retired streets, in passing along which we suddenly encountered some French soldiers in the act of quitting a large and noble-looking mansion, where the love of plunder had induced them to linger too long—for in an instant they were bayoneted by our troops against the walls. It was then that thinking I heard moaning within, I entered the house—a large but dimly lighted apartment lay before me into which I advanced, and by the flame of the glimering lamp, beheld the body of a young lady stretched upon the floor, and that of a British officer extended by her side.

Approaching and holding the lamp to the face of the former I looked upon a creature lovely in death although her features bore the expression of recent agony; and her hair all clotted with blood, streamed down over her bosom, from which the warn current of her heart had gushed through a ghastly wound.

I then turned the lamp to the face of the officer, in whom, with a start of horror, I recognized my poor friend Blanch, steeped in blood, and though he still breathed, it was evident his wounds were mortal, and that his end was near.

In a short time, however, he opened his eyes, and gazing on my face, held out his hand in token of recognition. The only restorative which I had about me was a little brandy in a flask, which I applied to his lips, and in a few minutes he rallied so much as to be able to speak and thank me; and with his dying breath to explain the circumstances in which I found him. They were to the following effect:

After an entrance into the town had been effected, in rushing along the streets with a party of his regiment during the confusion of the scene and the darkness of the night, Blanch was separated from them, and after a long and fruitless search, found himself at the door of the house in which we then were. Hearing a noise within, he suspected that some of our soldiers might be plundering; with the view of preventing which, he entered, at the hazard of his life, and had just reached the room where he then lay, when a door at the opposite end of it flew open, and in breathless terror, as if flying from pursuit, a young Spanish lady rushed into the room. Upon seeing the stranger she made a sudden pause, during which, with mute amazement, he recognized in the fair girl before him, the living form of her whose shadowy similitude had appeared in his slumbers on the preceding night; but tenfold was that amazement increased, when, ere he could speak, she exclaimed, with wild energy, "Mysterious heaven! It is he—'tis he himself!—the very being of my dream, who appeared to me last night, and is now come to take me away from the horrors of this dreadful place!"

At that moment, and before he could reply, a party of the enemy who had been searching the house in quest of pillage, burst into the room, and the sight of a British officer on such an occasion, so exasperated the marauders, that setting up a savage yell, they flew upon him with their bayonets, and the poor Spanish girl, who threw herself between them and their victim, received her death-wound at the same moment with him she tried to save.

Blanch could say no more—his tale was told, and his life was fast ebbing away—his speech faltered—his voice sunk into a whisper, and the signs of death were upon him. He motioned me to raise his head, which I had no sooner done than his eyes began to fix in the death glaze, and drawing in his breath for the last time, with a deep long sigh he expired.

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250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels

Axles of 2½, 2¾, 2⅞, 3, 3¼, 3½, and 3¾ inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.
9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71mcowr

TO RAILROAD COMPANIES.

☞ The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few setts wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to. DEAN WALKER a 30

LOCOMOTIVE ENGINES.

☞ THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1 2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,
WILLIAM NORRIS, Secretary.
December 2d, 1833.

Fr further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

Unprecedented Despatch.—The brig Cayuga, Capt. William Frisbie, of 246 tons and rising 2000 barrels burthen, which was launched from the ship yard on Wednesday afternoon last, is now completely fitted and equipped for sea, with a full cargo on board, cleared at the Custom House, and bound on a voyage to Europe—all in the short space of six days, including Sunday and one rainy day, making in reality but four working days.—[Boston Patriot.]

A CHANCE FOR MEN "SWIFT OF FOOT."—Mr. *John C. Stevens*, of this city, in order to make good an opinion publicly expressed, that what in the way of pedestrian feats has been done in England could also be done here, and under the impression that *ten miles* have actually been accomplished within the hour in England, makes the following proposition in the Courier and Enquirer of this morning:

I will give $500 to the first, $300 to the second, and $200 to him who shall be third in accomplishing the distance, (10 miles in the hour,) on the day selected for the trial. If but one should start, he shall be entitled to the whole $1,000, provided he does it within the hour. In order that those at a distance may have time to prepare for such a performance, I have selected the last ten days of April next, on some one of which, to make the trial.

The competitors may be "white, red or black, or of any intermediate color."

CHOICE WINES, &c.

THE subscriber offers for sale, a large assortment of Wines consisting of

MADEIRA—In pipes, hhds. and quarter casks, of different qualities and brands, part received direct, and part via East Indies. superior old L. P. in hhds. quarter casks, and half quarters.

Also—in cases of 1, 2 and 3 dozen each, old and choice.

SHERRY WINE—Pale and brown, in wood and glass, of different qualities, from 14s to 36s part of it imported by order.

PORT WINE—In hhds. and quarter casks. Also, in cases of 1 and 2 dozen each.

HOCK WINE—A large assortment, of various brands, qualities and vintages, in cases and hampers, some very old.

FRENCH WINES.—Sparkling Champaign, of all the favorite brands, quarts and pints, with and without wax on the corks. Also, Pink Champaign.

Sauterne, Vin de Grave, Burgundy, Moselle and Muscat.

Bordeaux Claret, Lafitte. Cheateax Margeaux, Leoville, St. Etephe.

Low priced, in boxes and casks.

Marseilles Madeira, in quarter casks and Indian barrels.

Canary, Malmsey and Teneriffe, &c. &c.

BOTTLES.—Wine, Porter and Claret, in hampers, one gross each. Demijohns.

HIBBERT'S PORTER.—London Porter, Brown Stout, and Pale Ale, in casks of 7 dozen quarts, and 8 do. pints.

SCOTCH ALE.—Younger & Co's Pale Ale, qts. and pints.

SALLAD OIL—Bordeaux and Marseilles, in boxes and baskets. Olives, Capers and Anchovies.

FRUIT—Bunch and Muscatel Raisins, E. I. Preserves and and Canton Ginger.

COFFEE, &c.—Old Java and Manilla, Souchong Tea, Refined White Sugars, &c.

Part of the above are entitled to debenture, and will be sold in lots to suit purchasers. Orders received, and forwarded as directed. ROBERT GRACIE,

O17 20 Broad sreet.

UTICA AND SCHENECTADY RAILROAD COMPANY.

PROPOSALS will be received until the last Monday of October next, at 12 o'clock at noon—

For grading about sixty-five miles of the Utica and Schenectady Railroad, between the Sand Ridge on Sanders' Flats in Schenectady, and the western boundary line of the town of Herkimer;

For the masonry within those limits, embracing the culverts. and the abutments and piers of the repective bridges; and

For the wooden superstructure of bridges across the Cayadutta Creek at Caughnawaga, the Garoga Creek at Palatine Church, the East Canada Creek at Manheim, the Gulph at Little Falls, and the West Canada Creek at Herkimer.

The line will be divided into sections of about one mile each, and prepared for examination, and maps, profiles and plans deposited for inspection with W. C. Young, the chief engineer, at Schenectady, ten days previous to the time above mentioned.

Blank forms of proposals will be furnished at an early day at the company's offices at Schenectady, Palatine, Little Falls and Utica.

The names of persons to whom contracts are awarded (who will not be permitted to sub-contract the same) will be made known, at Schenectady on the 29th day of October, when it will be required that the grading proceed without delay. wherever, and soon as titles to the lands are acquired by the company, that the culverts and small bridges be completed by the first of August next; that the residue of the masonry and the large bridges be finished by the 1st of October thereafter; and that the grading be completed during the year 1835. Contractors to furnish security for the faithful performance of their contracts.

The use of ardent spirits to be prohibited in constructing the road.

Proposals, post paid, to be endorsed "Proposals," and containing the names of the persons offered as securities, to be addressed to the undersigned at Schenectady, or deposited at the company's office at that place. September 4, 1834.

G. M. DAVISON, Commissioner

s17 to27 Utica and Schenectady Railroad Company.

RAILROAD AND CANAL MAP.

THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in *Marble Paper* covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the county.

Published at 35 Wall street, N. Y, by

a12 tf D. K. MINOR & J. E. CHALLIS.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, *warranted* of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures here after, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of *Farmers*.

W. THORBURN,

347 N. Market st. (opposite Post Office.

☞ Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

*** Mr. Thorburn is also Agent for the following publications, to wit:—NEW YORK FARMER and American Gardener's Magazine; MECHANICS' MAGAZINE and Register of Inventions and Improvements; AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the NEW-YORK AMERICAN, *Daily, Tri-Weekly*, and *Semi-Weekly*: *either* or *all* of which may be seen and obtained by those who wish them, by calling at 347 *North Market street, Albany*. tf

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, January 29, 1833.

NOTICE TO MANUFACTURERS.

☞ SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 tf RM&F

SURVEYING AND ENGINEERING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely *new*: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germant. and Norrist. Railroad

m1 1y

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad

No. 864 Elizabeth street, near Bleecker street, New-York.

☞ RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlæm Railroad, now in operation.

J 5 tf

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

☞ THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

☞ EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER, Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin and Heartte—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming aquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprize so well merits, I remain, yours, &c.

B. H. LATROBE, Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy submit them, upon application, to any person desirous of perusing the same. m30